EDITOR'S NOTE

"Think before you speak. Read before you think." - Fran Lebowitz

Department of Computer Science and Applications proudly releases X-plore 2024, a scholarly magazine intended to share with the student community and other readers about the current trends in Computer Science and technology. Without continual growth and progress, success has no meaning. The first release of this magazine was in the year 2009 and now has stepped into the 13th edition. This magazine provides a forum for the faculty and students to update their knowledge in the area of specialization. The magazine also highlights the events that took place in the academic year 2024-2025. The articles submitted by the student's and Staff's showcases recent trends in the field of Information Technology.

Department of Computer Science and Applications extends a hearty thanks to the management for their support and guidance for the upbringing of this magazine.

"Today a reader, tomorrow a leader" – Margaret Fuller

Ms. Sivaranjini N

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ABOUT THE COLLEGE

Auxilium College founded in 1954 is the first women's College in the Vellore district and is affiliated to the Thiruvalluvar University. Auxilium has been granted the status of autonomy by the UGC and the Thiruvalluvar University from the academic year 2007-2008. The College has been accredited by National Assessment and Accreditation Council (NAAC) with A+ grade in 2003, Re-Accredited with a grade with A CGPA of 3.41 out of 4 in 2010 and with A+ grade with a CGPA of 3.55 out of 4 grade in the 3rd cycle in 2016. The College is currently holding as A+ with a CGPA of 3.47 out of 4 in the 4th cycle of Assessment and Accreditation in May 2024.

It is a minority institution established and administered by the Daughters of Mary Help of Christians, commonly known as Salesian Sisters of Don Bosco, belonging to the Catholic Church. It is primarily meant for the higher education of deserving Catholics but members of other communities are also admitted without reference to caste or creed and their rights of conscience are respected.

Vision

The vision of the college is to educate young women especially the poorest to become empowered and efficient leaders of integrity for the society.

Mission

To impart higher education to the economically weak, socially backward and needy students of Vellore and neighboring districts.

Goal

The goal of our educative endeavor is to produce in a Salesian atmosphere, intellectually enlightened, spiritually inspired, emotionally balanced, morally upright, socially committed, accomplished – in a word – integrally formed young women who will be agents of social transformation in today's India. True to the vision of its Founders, the College commits itself to serve the economically weak, socially backward and needy students.

The Motto

The Motto of the College is KNOWLEDGE AND VIRTUE. The College Emblem constitutes a book, a lily and a lamp. The book stands for Knowledge and the lily for Virtue. The Lamp with the burning flame is a reminder to Auxilians, to keep the light of Knowledge and Virtue always alive. The hope and prayer of Auxilium is that every Auxilian while attaining Knowledge strives to acquire Virtue so that Knowledge and Virtue blend to make her a perfect model of womanhood.

HISTORY OF THE DEPARTMENT

Vision of the Department

The survival and growth of the society shall solely depend upon continuous emergence of knowledge based upon innovations. The pursuit of knowledge alone shall lead the individual, families and nation's prosperity and so vision of the Department is "Excellence in education and commitment to social responsibility.

Programmes Offered

Year of Establishment	BCA – 2001
	B.Sc. – 1991
	M.Sc. – 2000
(Additional Sections BCA) Year of Establishment	2009, 2024
Duration	UG: 3 Years, PG:2 Years
Pattern	Semester
Session	Un-Aided
Aim of the Course	• To open a channel of admission for computing courses for students, who have done the 10, 2 and are interested in taking computing as a career. • To train the students in basic knowledge in Computer Sciences, particularly in core areas and in developing application programs. • To impart sufficient knowledge and skills for writing general application programs. • To enhance logical and reasoning capabilities of students. • To provide experience of Information Technology scenario.

Certificate Course

Computer has become indispensable in our today's life, we the Department of Computer Science and Applications provide Certificate Course in Computer Science to the students of all departments. In this, we teach MS-Word, MS-Excel and MS-PowerPoint. Internet concepts which include Email creation send/open a mail, attaching files and how to search images, text from search engines like Google, Yahoo, etc. This knowledge helps the student to prepare effective Paper Presentations, Projects, Thesis and many other academic oriented works. Also, this course is mandatory for all the students to complete their degree.

Seminars and Conferences

The Department conducts Conference and Inter-Collegiate competitions regularly for the benefits of the students.

MoU

The Department has an MoU with ICT Academy of Tamil Nadu (ICTACT), an Initiative of Government of Tamil Nadu and Industry, is a not-for-profit autonomous organization focusing to improve the quality of students passing out of institutions in Tamil Nadu, to make them industry ready and immediately employable in the ICT industry comprising the ICT services and the ICT services and the ICT manufacturing sectors. This will meet the skill requirements of the industry and generate more employment in the state especially in tier 2/3 cities. ICTACT is governed by an autonomous Board of Governors with representations from the State Government of Tamil Nadu, leading companies in the ICT industry with presence in Tamil Nadu and NASSCOM.

DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS

STAFF LIST

B.C.A. (SHIFT–I)

NAME	QUALIFICATION	DESIGNATION
Ms. Sivaranjini N.	M.C.A., M.Phil., NET, (Ph.D.)	Assistant Professor & Head i/c.
Dr. Kavitha S.	M.C.A., M.Phil., Ph.D.	Assistant Professor
Ms. Anita Madona M.	M.Sc., M.Phil.,(Ph.D.)	Assistant Professor
Ms. Kokila A.	M.C.A., M.Phil.	Assistant Professor
Ms. Dharani R.	M.Sc., M.Phil.	Assistant Professor
Dr. Gina George	M.tech.,Ph.D.	Assistant Professor

B.C.A. (SHIFT-II)

NAME	QUALIFICATION	DESIGNATION
Dr. Shanthi A.L.	M.Sc., M.Phil., Ph.D.	Assistant Professor & Head i/c.
Dr. Lavanya S.	M.Sc., M.Phil., SET ., Ph.D.	Assistant Professor
Ms. Susai Mary Susila A.	M.C.A., M.Phil., B.Ed.	Assistant Professor
Dr. Tharani S.	M.Sc., M.Phil., Ph.D.	Assistant Professor
Ms.Gayatri S.	M.C.A.,M.Phil.,NET-JRF	Assistant Professor
Ms.Shanthi S.	M.C.A.,M.Phil.,SET	Assistant Professor

B.Sc. COMPUTER SCIENCE

NAME	QUALIFICATION	DESIGNATION
Sr.Thimina Celine R.	M.C.A., M.Sc., M.Phil.,	Assistant Professor & Head i/c.
Ms. Nisha Pauline R.	M.C.A., M.Phil.	Assistant Professor
Ms. Janani P.	M.Sc., M.Phil.	Assistant Professor
Ms. Yasmine S.K.A.	M.Sc., M.Phil.	Assistant Professor

STUDENT SECRETARIES

STUDENT NAME	CLASS
Ms. Binusha Sivakumar	II M.Sc. Computer Science
Ms. Anisha Balakrishnan	III B.C.A. (Shift I)
Ms. Keerthana Vivekanandan	II B.C.A. (Shift I)
Ms.Sharanya Ramasamy	III B.C.A. (Shift II)
Ms. Haritha ArunachalamAnitha	III B.Sc. Computer Science

PROGRAMMES

Orientation Program

The orientation conducted from June 6.8.2024 focused on equipping students with comprehensive set of skills and knowledge essential for their academic journey addressed by Dr. Shanthi A.L. Ms. Kokila A demonstrated the various tools and resources aimed to enhance the digital literacy. Ms. Susai Mary Susila Emphasized the importance of physical and mental health being in maintaining overall health and supporting academic performance. Ms. Sruthi from Indium Software and alumini of our department emphasized the techniques and insights for achieving academic success.

FDP – Idea Generation Method

The Internal Quality Assurance Cell (IQAC) of Auxilium College, in collaboration with the ICT Academy of the Government of Tamil Nadu, organized a 5-day Faculty Development Programme on Idea Generation Method . The resource person for the programme was Ms. Sivapriya Kumaresan Director of Redback IT Solutions Pvt. Ltd., Vellore. The FDP programme was held in Sr. Antoinette Seminar Hall.

State Level Workshop - "Full Stack Web Development"

The Department of Computer Science and Applications at Auxilium College (Autonomous) organized a highly engaging workshop on Full Stack Web Development on 23rd September 2024. The event commenced with a warm welcome and felicitation of the gathering by the Principal, Dr. (Sr.) Arokia Jayaceli Ambrose., who emphasized the importance of acquiring practical technical skills in today's digital world.

Dr. J. Jerald Inico conducted a comprehensive national-level workshop on Full Stack Development, attracting participants from various technical backgrounds. The workshop covered both front-end and back-end development, focusing on key technologies like HTML, CSS, JavaScript, Node.js, and database management. Through hands-on sessions and live coding examples, the resource person guided attendees in building end-to-end web applications, emphasizing best practices and current industry trends.

The event provided participants with essential skills to excel in full-stack roles, fostering innovation and practical understanding in the rapidly evolving tech landscape.

International Conference on "Innovative Trends in Information and Communication Technology

The Department of Computer Science and Applications along with the Department of Communication Media, Auxilium College, Vellore in collaboration with Holy Cross College, Tiruchirappalli organized the International Conference on "Innovative Trends in Information and Communication Technology" on 21.11.2024 in the Auxilium College Auditorium.

The keynote address was delivered by Fr. Harris Pakkam, SDB, Director, Salesian News Agency, Rome. He talked about how information and communication technology affects all aspects of our daily life, business, politics and that has led to a cultural shift. The second session was handled by Dr. Neema Sheron, Head, Demand & Marketing Operations, Co-corporate, Norway. She introduced the students to concepts about artificial intelligence, Machine Learning, Large Language Model, Generative AI needed for Digital Marketing. Simultaneously technical papers were presented. Dr. Lavanya S. and Ms. Nisha Pauline R, Assistant Professors, Department of Computer Science & Applications, Auxilium College, Vellore, were the reviewers of the paper presentations.

Third session which was delivered by Ms. Kalaiarasi Jayapal, Consultant, Lead-Solutions Consultant, Provenir, Krishnagiri. She explained Machine Learning concepts like supervised, unsupervised, reinforcement learning and also of cloud computing services like Infrastructure as a Service, Platform as a Service, Software as a Service. She gave a live demo of Amazon Web service's Elastic Cloud Compute and encouraged the audience to try it for themselves too. The fourth session was delivered by Dr. Dalwin Vinoth Kumar, Assistant Professor, Department of Statistics and Data science, Christ University, Bengaluru. He delved into IoT concepts explaining the computing and communication behind the IoT applications.

Webinar on "Computational Intelligence"

Department of Computer Applications (Shift II) and PG Department of Computer Science successfully organized a webinar on "Computational Intelligence" on December 17, 2024 as a part of the department's Association activities. This event aimed to explore the principles and applications of computational intelligence in addressing complex real-world challenges.

Dr. Lakshmi Palanisamy, Assistant Professor from Bharathiar University, Coimbatore, served as the resource person. She delivered an enlightening session, delving into foundational concepts, techniques like machine learning, fuzzy systems, and neural networks, and their practical applications across diverse fields.

Webinar on "Exploring Tableau"

PG department of Computer Science Department of Computer Applications (Shift II) successfully organized a webinar on "Exploring Tableau" on January 27, 2025 as a part of the department's Association activities. The session was conducted online via Google Meet, with Dr. Salman Ayaz, Assistant Professor, Department of Computer Science, Islamiah College (Autonomous), Vaniyambadi, as the esteemed resource person. He provided a comprehensive introduction to Tableau, a leading data visualization tool. He elaborated on its significance in data analytics, demonstrating key functionalities and practical applications. The session covered various aspects of Tableau, including data connection, visualization techniques, and dashboard creation.

Guest Lecture on "Data Science: A Comprehensive Roadmap" and a Poster Presentation on "AI in Cybersecurity"

The Department of Computer Science at Nirmala College for Women (Autonomous), Coimbatore, in association with Auxilium College (Autonomous), Vellore, organized a Guest Lecture on "Data Science: A Comprehensive Roadmap" and a Poster Presentation on "AI in Cybersecurity" on 12th February 2025. The event was conducted as part of an Academic Collaborative Activity under the Xavier Board of Higher Education, India, in online mode at 10:00 AM.

The guest lecture was delivered by Dr. L. Sheeba, Associate Professor, Department of Computer Applications, PSGR Krishnammal College for Women, Coimbatore. She provided an insightful session covering various aspects of Data Science, including fundamental concepts, real-world applications, and career opportunities in the field. The lecture emphasized data preprocessing, machine learning algorithms, model evaluation techniques, and future trends in data science, engaging students and faculty in an interactive learning experience. The event was graced by esteemed patrons and organizers. Rev. Sr. Dr. Kulandai Therese, Secretary, Nirmala College for Women, and Dr. (Sr.) Mary Josephine Rani A., Secretary, Auxilium College, served as the chief patrons.

The patrons included Rev. Sr. Dr. Mary Fabiola, Principal, Nirmala College for Women, and Dr. (Sr.) Arokia Jayaceli A., Principal, Auxilium College. Faculty members from both institutions played a crucial role in coordinating and executing the event successfully.

Along with the guest lecture, a Poster Presentation Competition was conducted on the theme "AI in Cybersecurity." The competition allowed students to showcase their knowledge and creativity in exploring how artificial intelligence is transforming cybersecurity through anomaly detection, automated threat response, and predictive analytics. The event concluded with a vote of thanks, acknowledging the resource person, management, faculty members, and students for their valuable contributions and active participation. The Guest Lecture on Data Science and Poster Presentation on AI in Cybersecurity were highly successful in enhancing students' knowledge and practical understanding of the latest advancements in technology. This academic collaboration between Nirmala College for Women and Auxilium College under the Xavier Board of Higher Education provided a great learning opportunity, fostering innovation and research among students. The session was insightful, engaging, and a valuable academic experience for all attendees.

ASSOCIATION ACTIVITIES

To enhance the logical and reasoning capabilities of students, the Department conducts regular activities like Inter-collegiate meetings and Department Symposium every year.

B.C.A (Shift I)

25.07.2024

The Department of Computer Application (Shift I) conducted an Association Activity "Poster Presentation" on the topic Block Chain, 5G Network, Etc., with the team size of two. Students were actively participated and presented their creative ideas in chart. The event was judged by Ms. Janani Praveen Kumar, Asst. Professor of Computer Science Shift-I and Dr. Tharani Shanmugam, Asst. Professor of Computer Applications Shift-II, Auxilium College.

16.08.2024

Student of B.C.A. actively participated in Association Activity "Paper Presentation" On the topics AI, Machine Learning, Natural Language Processing, etc., with team size of two. Nearly 6 team of students actively participated and presented. The event was judged by MS. Yasmine Syed Khader Aqbal, Assistant Professor, Department of Computer Science (Shift-II).

18.09.2024

Student of B.C.A. actively participated in Association Activity "Logo Creation" On the topics Department Logo., with team size of one. Nearly 6 team of students actively participated. The event was judged by Ms. Radhika Manoharan., Asst. Professor of Communication Media, Auxilium College.

26.09.2024

The Department of Computer Applications organized a Special Guest Lecture on "Offensive and Defensive Security" on 26.09.2024. Ms. Kaviya Jothirajan, Cyber Operations Manager, Optiv Security India PVT, Bangalore served as the Resource Person for the Guest Lecture.

She delivered an insightful lecture on offensive and defensive security, highlighting the importance of proactive measures in combating cyber threats, understanding the differences between offensive and defensive security. Identifying vulnerabilities through penetration testing. Staying updated with emerging threats and technologies**.**

16.12.2024

Student of B.C.A. actively participated in Association Activity "Quiz Competition" On the topics Trending Technologies., with team size of two. Nearly 6 team of students actively participated. The event was judged by Ms. Dharani Ravi. Assistant Professor, Department of Computer Applications (Shift-I).

19.12.2024

A resource talk on "Uncovering the Future of AI" was delivered by Mr. Muhammed Ilyas, a distinguished expert in artificial intelligence. The session provided deep insights into the transformative potential of AI in shaping industries, enhancing decision-making, and driving innovation. Mr. Muhammed Ilyas highlighted emerging trends in AI, such as machine learning, ethical AI, and its applications in healthcare, education, and business. He emphasized the importance of ethical considerations and collaboration to ensure AI serves humanity responsibly.

30.01.2025

Student of B.C.A. actively participated in Association Activity "Marketing" on the topic trending technologies with team size of two. Nearly 6 team of students actively participated and presented. The event was judged by Dr. Balapriya M., Assistant Professor, Business Administration.

13.02.2025

Student of B.C.A. actively participated in Association Activity video-making competition on the theme of Leadership was successfully conducted to encourage creativity, teamwork, and a deeper understanding of leadership qualities among participants.

The competition aimed to highlight various aspects of leadership, including responsibility, vision, communication, and integrity, through engaging and thought-provoking videos. The event was judged by Ms. Radhika Manoharan., Asst. Professor of Communication Media, Auxilium College.

Prize winners of Association activities

S.No	Date	Competition	Prizes Won	Participants Name
1.	25.07.2024	Poster Presentation	I	Keerthana Vivekanandan II B.C.A. 'C' Reena Manavalan II B.C.A. 'C'
			II	Soniya Thirunavukarasu III B.C.A. 'A' Logeshwari Panneerselvam III B.C.A. 'A'
			III	Nethra Sudhakar I B.C.A. 'B' Monisha Dhanasekaran I B.C.A. 'B'
2	16.08.2024	Paper Presentation	I	Nagapatla Harini II B.C.A. 'C' Keerthana Muthu II B.C.A. 'C'
			II	Keerthana Vivekanandan II B.C.A. 'C' Reena Manavalan II B.C.A. 'C'
			III	Gomathi Balan II BCA 'B' Kanishka Venkatesan II BCA 'B'
3	18.09.2024	Logo Creation	I	Saron Prathiba William Martin Luther III B.C.A. 'A'
			II	Keerthana Kumaran III B.C.A. 'A'
			III	Janani Rajendran II B.C.A. 'B'
4	16.12.2024	Quiz Competition	I	Keerthana Vivekanandhan II B.C.A. 'C' Isra Mohammed II B.C.A. 'C'
			II	Soundarya Rajasekaran III B.C.A. 'A' Vidyalakahmi Prabhakaran III B.C.A. 'A'
			III	Jenisha Catherine William II B.C.A. 'B' Jayashree Ravikumar II B.C.A. 'B'

5	30.01.2025	Marketing	I	Aysha Amar II B.C.A. ‘B’ FathimaIfah Ameed Pillai II B.C.A. ‘B’ Gomathi Balan II B.C.A. ‘B’ Janani Dhayanandhan II B.C.A. ‘B’ Mathusree Velu II B.C.A. ‘B’
6	13.02.2025	Video making	I II III	Tecina Glynnis I B.C.A. ‘B’ Jenisha Catherine William II B.C.A. ‘B’ Thenmozhi Ragavan I B.C.A. ‘C’ Kavitha I B.C.A. ‘C’

BCA (Shift II)

25.07.2024

The event titled "Association Activity on Riddles" was organized by the Department of Computer Applications (Shift II), the activity took place at 1:00 PM in the Computer Block of the college. It covered two main areas: General Computer Knowledge and Programming Languages and Fundamentals. The riddles and puzzles integrated into these topics were designed to challenge the students' critical thinking and problem-solving skills, making the learning experience both enjoyable and effective. The event was well-received by the participants, who found the riddles to be a stimulating way to reinforce their learning.

28.08.2024

The Department of Computer Applications (Shift II) at Auxilium College (Autonomous), Vellore, organized a Poster Presentation Competition on the theme "Internet of Things" on August 28, 2024, at 12:30 p.m. in the Computer Block. This event was part of the department's ongoing efforts to encourage students to explore innovative technologies and enhance their presentation skills.. The event was honored by the presence of the esteemed judge, with Ms. Janani Praveen, Assistant Professor, Department of Computer Science, evaluating the posters. Her insightful comments and constructive feedback greatly enriched the participants' experience.

16.09.2024

On 16th September 2024, the Department of Computer Applications (Shift II) hosted an engaging debate as a part of Association Activity, in the Computer Block. The debate centered on the provocative topic: "Should Social Media Platforms Be Held Responsible for User-Generated Content or Not?" The activity took place in Computer block at 1.00 p.m. The event was adjudicated by Ms. Nisha Pauline Ratnaraj, Assistant Professor in the Department of Computer Science.

24.10.2024

On October 24, 2024, the Department of Computer Application conducted an engaging activity focused on "Resume Writing" at the Computer Block. The event aimed to equip students with essential skills for crafting effective resumes, an important step in their professional development. The activity witnessed enthusiastic participation from students of BCA, showcasing their commitment to enhancing their employability skills. To foster a spirit of healthy competition, three students were selected based on their outstanding resume presentations. The criteria for selection included creativity, clarity, and relevance to the job market.

21.11.24

The Department of Computer Science and Applications along with the Department of Communication Media, Auxilium College, Vellore in collaboration with Holy Cross College, Tiruchirappalli organized the International Conference on “Innovative Trends in Information and Communication Technology” on 21.11.24 in the Auxilium College Auditorium. The keynote address was delivered by Fr. Harris Pakkam, SDB, Director, Salesian News Agency, Rome. He talked about how information and communication technology affects all aspects of our daily life, business, politics and that has led to a cultural shift. The second session was handled by Dr. Neema Sheron, Head, Demand & Marketing Operations, Corporate, Norway. She introduced the students to concepts about artificial intelligence, Machine Learning, Large Language Model, Generative AI needed for Digital Marketing. Simultaneously technical papers were presented Third session which was delivered by Ms. Kalaiarasi Jayapal, Consultant, Lead-Solutions Consultant, Provenir, Krishnagiri.

She explained Machine Learning concepts like supervised, unsupervised, reinforcement learning and also of cloud computing services like Infrastructure as a Service, Platform as a Service, Software as a Service. She gave a live demo of Amazon Web service's Elastic Cloud Compute and encouraged the audience to try it for themselves too. The fourth session was delivered by Dr.Dalwin Vinoth Kumar, Assistant Professor, Department of Statistics and Data science, Christ University, Bengaluru. He delved into IoT concepts explaining the computing and communication behind the IoT applications.

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Department of Computer Applications (Shift II) successfully organized a webinar on "Exploring Tableau" on January 27, 2025 as a part of the department's Association activities. The session was conducted online via Google Meet, with Dr. Salman Ayaz, Assistant Professor, Department of Computer Science, Islamiah College (Autonomous), Vaniyambadi, as the esteemed resource person. He provided a comprehensive introduction to Tableau, a leading data visualization tool. He elaborated on its significance in data analytics, demonstrating key functionalities and practical applications. The session covered various aspects of Tableau, including data connection, visualization techniques, and dashboard creation.

Prize winners of Association activities

S.No.	Date	Competition	Prizes won	Participants
1	25.07.2024	Riddles	I	Roshini Saravanan III B.C.A.
			II	Monisha Senthil Kumar I B.C.A.
			III	Laksha Maiyappan II B.C.A.
2	28.08.2024	Poster Presentation	I	Poornima Sudhakaran III B.C.A. Thasini Priya Arumugam III B.C.A.
			II	Laksha Maiyappan II B.C.A.
			III	Shahidha Banu. N I B.C.A.
3	16.09.2024	Debate	I	Nimah Fathima Imran II B.C.A.
			II	Roshini Saravanan III B.C.A.
			III	Sree Shakthi Devi Loganathan III B.C.A.
4	24.10.2024	Resume Writing	I	Roshini Saravanan III B.C.A.
			II	Sharanya Ramasamy III B.C.A
			III	Rajeswari Prakash III B.C.A.

B.Sc., Computer Science

The Association of Computer Science Department organized events like Quiz Competition, Poster Presentation, Resume Building, MIME etc. This event enhanced students' knowledge, creativity and professional skills. These activities provided a platform for students to showcase their talents and gain practical experience. They also helped in building confidence, improving teamwork and preparing students for future career opportunities.

31.07.2024

A Quiz Competition was held on 31.07.2024. This activity provided numerous benefits, enhancing both their academic and personal development. It also boosted students' self-esteem and confidence in their knowledge and abilities. Through this event, students were able to identify areas for self-improvement and recognize their progress, giving them reasons to be proud.

14.08.2024

The Department of Computer Science organized the Poster Presentation on the topic Artistic Interpretation of National Flag as part of the Association Activity on 14.08.2024 to highlight the significance of Independence Day. Through this competition students got the opportunity to express their creativity by interpreting the national flag in unique way, using different art forms and techniques. It was encouraged the students to think outside the box and come up with innovative ideas that are both meaningful and respectful of national symbols.

15.08.2024

The Mime Event, as part of the Association Activity, was conducted on 15.08.2024 on the topic 'Importance of Respect and Unity' for the Anti-Ragging Awareness Mahotsav. Through this competition students learnt to convey emotions and narratives without words, improving their ability to express themselves through body language and facial expressions. They become more adept at reading others' non-verbal cues and understanding unspoken messages. Students explored different ways to use their bodies and imagination, which enhanced their overall artistic expression.

23.08.2024

Logo Designing Competition was held online on 23.08.2024. The Logo Designing Competition provided students with a platform to showcase their creativity and enhance their technical skills using tools like Canva, Adobe Express, Fiverr, DesignCrowd, and Looka. It helped them understand branding, colour psychology, and design principles while boosting their confidence in presenting ideas and also this competition encouraged healthy competition, teamwork, and innovation, preparing them for future career opportunities in graphic design and digital marketing

14.11.2024

Brand Identity Battle (Visiting Card Making) Competition for undergraduate students was conducted online on 14.11.2024. This event aimed to enhance students' creativity, design skills, and understanding of professional branding through digital and handmade visiting card designs. Students were encouraged to design a unique and professional visiting card.

31.01.2025

Resume Building Competition was conducted for Computer Science Department students on 31.01.2025. This competition helped students to enhance their professional writing skills, ensuring they create structured and impactful resumes. It also improved their ability to highlight strengths, achievements, and career aspirations effectively. The competition also boosted confidence in job applications and interview preparedness.

Prize winners of Association activities

S.No.	Date	Competition	Prizes Won	Participants
1.	31.07.2024	Quiz Competition	I	Rohini Ranganathan III B.Sc. CS Monika Ramamoorthy II B.Sc. CS
			II	Miruthu Bashini Paramasivam II B.Sc. CS Kharishma Mahendran I B.Sc. CS
			III	Blessy Shulamite James Netto II B.Sc. CS Devadharshini Govindharajan III B.Sc. CS
2.	14.08.2024	Poster Presentation	I	Varshini Selvaraj III B.Sc. CS
			II	Beaula Hepciba Vimalraj III B.Sc. CS
			III	Mohanapriya Venugopal II B.Sc. CS
3.	14.08.2024	MIME	I	Uvanthika Senthilkumaran III B.Sc. CS Ramya Selvaraj III B.Sc. CS Nisha Chandrasekaran III B.Sc. CS Pavithra Saravanan III B.Sc. CS Reshika Senthilkumar III B.Sc. CS Miruthu Bashini Paramasivam I B.Sc. CS Monikaa Gunasekar I B.Sc. CS Aafrin Fathima Faheemahmed I B.Sc. CS Harini Rajasekaran I B.Sc. CS
4.	23.09.2024	Logo Designing Competition	I	Madhumitha Govindaraj III B.Sc. CS
			II	Sandhiya Annadurai II B.Sc. CS
			III	Nisha Chandrasekar III B.Sc. CS
5.	14.11.2024	Brand Identity Battle	I	Abinaya Hari III B.Sc. CS Devadharshini Govindrajan III B.Sc. CS Varshini Selvaraj III B.Sc. CS Pooja Radhakrishna III B.Sc. CS
			II	Nisha Chandrasekar III B.Sc. CS Priyadharshini Nithiyanantham III B.Sc. CS
			III	Uvanthika Sendhilkumaran III B.Sc. CS Radhapriya Palani I B.Sc. CS

6.	31.1.2025	Resume Building Competition	I II III	Bhagiyalakshmi Thanigainathan II B.Sc. CS Nidhi Shree Rajendra Prasath I B.Sc. CS Mithra Sudhakar I B.Sc. CS

M.Sc. Computer Science

25.07.2024

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28.08.2024

The PG Department of Computer Science (Shift II) at Auxilium College (Autonomous), Vellore, organized a Poster Presentation Competition on the theme "Internet of Things" on August 28, 2024, at 12:30 p.m. in the Computer Block. This event was part of the department's ongoing initiative to inspire students to delve into cutting-edge technologies and hone their presentation skills. The event was honored by the presence of Ms. Janani Praveen, Assistant Professor from the Department of Computer Science, who served as the judge. Her valuable feedback and insightful comments significantly enriched the learning experience for all participants.

16.09.2024

On 16th September 2024, the PG Department of Computer Science hosted a stimulating debate on the topic: "Blockchain Technology: The Future of Finance or Just a Fad?" The event took place at 12:30 PM in the Computer Block and was presided over by Ms. Nisha Pauline Ratnaraj, Assistant Professor in the Department of Computer Science.

24.10.2024

On October 24, 2024, the PG Department of Computer Science conducted an engaging activity focused on "Resume Writing" at the Computer Block. The event aimed to equip students with essential skills for crafting effective resumes, an important step in their professional development.

The activity witnessed enthusiastic participation from students of I M.Sc(CS) and II M.Sc(CS), showcasing their commitment to enhancing their employability skills. To foster a spirit of healthy competition, three students were selected based on their outstanding resume presentations. The criteria for selection included creativity, clarity, and relevance to the job market.

21.11.24

The Department of Computer Science and Applications along with the Department of Communication Media, Auxilium College, Vellore in collaboration with Holy Cross College, Tiruchirappalli organized the International Conference on “Innovative Trends in Information and Communication Technology” on 21.11.24 in the Auxilium College Auditorium. The keynote address was delivered by Fr. Harris Pakkam, SDB, Director, Salesian News Agency, Rome. He talked about how information and communication technology affects all aspects of our daily life, business, politics and that has led to a cultural shift. The second session was handled by Dr. Neema Sheron, Head, Demand & Marketing Operations, Corporater, Norway. She introduced the students to concepts about artificial intelligence, Machine Learning, Large Language Model, Generative AI needed for Digital Marketing. Simultaneously technical papers were presented. Dr. Lavanya S. and Ms. Nisha Pauline, Assistant Professors, Department of Computer Science & Applications, Auxilium College, Vellore, were the reviewers of the paper presentations.

Third session which was delivered by Ms. Kalaiarasi Jayapal, Consultant, Lead-Solutions Consultant, Provenir, Krishnagiri. She explained Machine Learning concepts like supervised, unsupervised, reinforcement learning and also of cloud computing services like Infrastructure as a Service, Platform as a Service, Software as a Service. She gave a live demo of Amazon Web service’s Elastic Cloud Compute and encouraged the audience to try it for themselves too.

The fourth session was delivered by Dr. Dalwin Vinoth Kumar, Assistant Professor, Department of Statistics and Data science, Christ University, Bengaluru. He delved into IoT concepts explaining the computing and communication behind the IoT applications.

17.12.2024

PG Department of Computer Science successfully organized a webinar on "Computational Intelligence" on December 17, 2024 as a part of the department's Association activities. This event aimed to explore the principles and applications of computational intelligence in addressing complex real-world challenges. Dr. Lakshmi Palanisamy, Assistant Professor from Bharathiar University, Coimbatore, served as the resource person. She delivered an enlightening session, delving into foundational concepts, techniques like machine learning, fuzzy systems, and neural networks, and their practical applications across diverse fields.

27.01.2025

The PG Department of Computer Science successfully organized a webinar on "Exploring Tableau" on January 27, 2025 as a part of the department's Association activities. The session was conducted online via Google Meet, with Dr. Salman Ayaz, Assistant Professor, Department of Computer Science, Islamiah College (Autonomous), Vaniyambadi, as the esteemed resource person. He provided a comprehensive introduction to Tableau, a leading data visualization tool. He elaborated on its significance in data analytics, demonstrating key functionalities and practical applications. The session covered various aspects of Tableau, including data connection, visualization techniques, and dashboard creation.

Prize winners of Association activities

S.No.	Date	Competition	Prizes won	Participants
1	25.07.2024	Riddles	I II III	Sunmathi Sekar II M.Sc. CS Divya Shanmuganathan II M.Sc. CS Harinisri Mathiyalsagan I M.Sc. CS
2	28.08.2024	Poster Presentation	I II III	Harinishri Mathiyalagan I M.Sc. CS Binusha Sivakumar II M.Sc. CS Aarthi Elangovan I M.Sc. CS
3	16.09.2024	Debate Competition	I II III	Priyadharshini Rajendhiran I M.Sc. CS Jeevitha Pichaikaran I M.Sc. CS Arthi Elangovan I M.Sc. CS
4	24.10.2024	Resume Writing	I II	Aarthi Elangovan I M.Sc. CS Haripriya Arumugam I M.Sc. CS

CYBER CLUB ACTIVITIES

Poster Presentation Competition was held on 31.07.2024 in Computer Block Lobby. Around 35 students from various departments presented the posters in the Theme protect your Digital Footprint. The posters were showcasing a range of innovative ideas. The event fostered a collaborative environment, allowing participants to share their work and gain valuable feedback.

Debate Competition was held on 29.08.2024 in Indoor Stadium. Around 40 students from various departments participated and spoke on the Theme “Cyber Security Whose Responsibility”. The Debate started with argument that cybersecurity is primarily the responsibility of government entities or individual. The judge finally concluded the debate with need for regulation, national security, and public policy to safeguard and protect citizens from cyber threats.

Quiz Competition was held on 26.09.2024 and was held via Google form, ensuring accessibility for all participants. It was conducted on "Cyber ethics and laws", aimed at promoting knowledge enhancement and healthy competition among students. The quiz featured 15 multiple-choice questions. Participants had 15 minutes to complete the quiz. The quiz was designed to cater to different levels of difficulty to engage all students. The quiz was a great success, enhancing student engagement and promoting learning in an enjoyable, competitive format.

Code Fixer Challenge was held on 09.12.2024 in UG Computer Lab. This event aimed to enhance participants debugging and problem-solving skills by providing them with pre-written java code containing errors. Participants were required to identify and fix the bugs within a specified time frame. The event was a success in enhancing coding proficiency and promoting collaborative learning within the Cyber Club community.

The Video Making Competition – Video Vista was successfully conducted on 31.01.2025 in the Computer Lab. The competition aimed to raise awareness about Digital Wellness, emphasizing responsible digital usage, mental well-being in the digital age, and maintaining a healthy balance between screen time and offline activities. 20 students from various department participated in the event, showcasing their creativity through informative, engaging, and thought-provoking videos.

Prize winners of Cyber Club activities

S. No.	Date	Competition	Prizes Won	Participants
1.	31.07.2024	Poster Presentation	I	Keerthiga Govindhasami III B.Sc. CS Priyadharshini Ramakrishnan III B.Sc. CS
			II	Varshini Selvaraj III B.Sc. CS Vijayalakshimi Murugan III B.Sc. CS
			III	Rajalakshmi Ramesh II B.C.A. 'A' Lakshmi Priya Vijayan II B.C.A. 'A' Tamilarasi Thennarasan I Bio Chemistry

2.	29.08.2024	Debate Competition	I II III	Vidhya Lakshmi Prabhakaran III B.C.A. ‘A’ Roshini Saravanan III B.C.A ‘B’ Keerthana Vivekanandan II B.C.A. ‘C’ Hemasubasri Shanthakumar III B.Sc. CS Gomathi Balan II B.C.A. ‘B’ Soundarya Rajasekaran III B.C.A. ‘B’ Jagath Priya Nandagopal I B.B.A.
3.	26.09.2024	Quiz Competition	I II III	Blessy Shulamite James Netto II B.Sc. CS Laksha Maiyappan II B.C.A. ‘A’ Pooja Kumar III B.C.A. ‘B’ Gopika Rajasekaran II B.Sc. CS Poornima pazhani II B.C.A. ‘A’ Keerthana Vivekanandan II B.C.A. ‘C’ BhagiyaLakshmi Thanigainathan II B.Sc. CS Monika Ganesh II B.C.A. ‘A’ Janani Dhamodharan II B.Sc. CS Kaviya Ramesh III B.C.A. ‘B’
4.	09.12.2024	Code Fixer Challenge	I II III	Monika Ramamoorthy II B.Sc. CS Soniya Thirunavukarasu III B.C.A.’B’ Ezhilarasi Muruganandam II B.Sc. CS Sandhiya Desing III B.C.A.’B ‘ Indhumathi Mahalingam II B.C.A. ‘A’ Monisha Desingu III B.C.A. ‘B’ Mathusree Velu II B.C.A. ‘B’
5.	31.01.2025	Video Vista	I II III	Divyasri Jagadeesan II B.Com Pradhakshana Ravi II B.Com. Soundarya Rajasekran III B.C.A. ’ B’ Sharon Prathiba William III B.C.A. ‘B’ Kirthana Senthil I B.C.A. ‘A’ Keerthana Vivekanandan III B.C.A. ‘B’ Saliha Tazeen Syed Iqbal II B.Sc. CS

Dr. Kavitha S.
Ms. Janani P.
Ms. Gayatri S.

Staff Advisors

LAURELS WON BY THE STUDENTS

ACTIVITIES OUTSIDE THE CAMPUS

BCA SHIFT I

S. No.	Date	Conducted by	Event	Participants	Prize won	State/ University National / International
1.	31/07/2024	MMES Women's Arts and Science College, Melvisharam.	One-day workshop on "Generative AI"	36 UG Students	-	State
2	23/01/2025	Thiruvalluvar University	"TechFrenzy 2025"	21 UG Students	-	State

BCA SHIFT II

S. No.	Date	Conducted by	Event	Participants	Prize won	State/ University National / International
1.	31/07/2024	MMES Women's Arts and Science College, Melvisharam.	One-day workshop on "Generative AI"	13 PG Students 7 UG Students	-	State

B.Sc. COMPUTER SCIENCE

S. No.	Date	Conducted by	Event Name	Participants	Prize won	State/ University National / International
1.	10/12/2024	Muthurangam Government Arts college	Science Mela	Jothika Balasubramaniyam. I B.Sc. CS Harini Rajasekaran I B.Sc. CS Porselvi Gopi I B.Sc. CS	-	State
2.	25.08.2024	Baby Residency Vellore	DMK Speech Competition	Swathi Saravanan. II B.Sc. CS	Cash Prize Rs.10,000	State
3.	18.09.2024	Sacred Heart College, Thirupattur.	National level Workshop on "Data Analytics with BI And AI"	Madhumitha Govindraj III B.Sc. CS Poorvika Palani III B.Sc. CS Haritha Arunachalam III B.Sc. CS Nisha Chandrasekaran III B.Sc. CS Uvanthika Senthilkumaran III B.Sc. CS Gowthami Jaganandhan III B.Sc. CS Kanishka Sivakumar III B.Sc. CS Ramya Selvaraj III B.Sc. CS Priyadharashini Ramakrishnan III B.Sc. CS Swathi Nandakumar III B.Sc.CS Rencia Gladis Rex III B.Sc.CS Priyadharshini Nithiyanatham III B.Sc. CS Varshini Selvaraj III B.Sc. CS Vijayalakshmi Murugan III B.Sc.CS Selvakumari Arumugam III B.Sc.CS Epsiba Joycie John Arockia Doss III B.Sc. CS Pooja Radhakrishnan III B.Sc.CS Jancy Pathinathan III B.Sc. CS Keerthana Antony Johnson III B.Sc. CS Aashitha Mohan III B.Sc. CS Dhanalakshmi Ramu III B.Sc.CS Sajeetha Vishnu III B.Sc. CS Pavithra Murthy III B.Sc. CS Abinaya Hari III B.Sc. CS	-	State
3.	21.01.2025	Thiruvalluvaar	Science Expo	Usha Nandhimandalam Monica Saravanan II B.Sc. CS	-	State

	& 22.01.2025	University Science Expo		Arya Rajendran II B.Sc. CS Lavanya Sureshbabu II B.Sc. CS Hemashalini Sureshkumar. II B.Sc. CS Saliha Tazeen Syed Iqbal II B.Sc. CS Monika Panneerselvam II B.Sc. CS BhagiyaLakshmi Thanigainathan II B.Sc. CS Janani Dhamodharan II B.Sc. CS Kiruthiga Dinakaran II B.Sc. CS		
4.	21.11.2024	Auxilium College(Autonomous) Jointly Associating with Xavier Board of Higher Education in India	International Conference on Innovative Trends in Information and Communication Technology Participated in Paper Presentation Competition	Madhumitha Govindraj III B.Sc. CS Blessy Shulamite James Netto II B.Sc. CS Poorvika Palani. III B.Sc. CS Haritha Arunachalam III B.Sc. CS Nisha Chandrasekar III B.Sc. CS Keerthana Karunya Mangai I B.Sc. CS Monica Rasalingam II B.Sc. CS	-	State
5.	28.01.2025	Muthurangam Government Arts college	Anti-Drug Awareness Speech Competition	Devi Vijayan. I B.Sc. CS Dharshini R. I B.Sc. CS	-	State
6.	27.01.2025	VIT University	Kambar Kattum Raman Speech Competition	Swathi Saravanan. II B.Sc. CS	-	State
7.	22.01.2025	Government B.Ed College	Tamilin Meanmai Essay Writing Competition	Swathi Saravanan II B.Sc. CS	-	State

8.	25.08.2024	Thiruvalluvar Higher Secondary School Gudiyatham	Periyar Speech Competition	Monika Rasalingam II B.Sc. CS Ezhilarasi Muruganandam II B.Sc. CS Gopika Sathishkumar II B.Sc. CS	-	State
9.	29.01.2025	Boys Higher Secondary School Katpadi	State Level Achievement Survey	Lavanya Sureshbabu II B.Sc. CS Monica Saravanan II B.Sc. CS Usha Nandhimandalam II B.Sc. CS Keerthika Sekar II B.Sc. CS	-	State
10.	04.01.2025 & 05.01.2025	PUPS School T.V.Nagar	Field Invigilator	Lavanya Sureshbabu II B.Sc. CS Usha Nandhimandalam II B.Sc. CS Monica Saravanan II B.Sc. CS Keerthika Sekar II B.Sc. CS	-	State
11.	18.02.2025	Health and Fine Arts Club	Organic and Health Food Competition	Mahalakshmi Raman I B.Sc. CS Snega Murugan I B.Sc. CS Sureka Palani I B.Sc. CS Monika Gunasekar I B.Sc. CS Lavanya Rajesh I B.Sc. CS Kharishma Mahendran I B.Sc. CS	III Prize	State

SPORTS

In the Intramural events and other sports events were conducted during this academic year, students from the Department of Computer Science and Applications won the following prizes:

B.C.A. (SHIFT I)

INTRAMURALS
ATHLETICS

3000 Meters

Rubini Natarajan. II B.C.A. 'B' - III Place

Aarisha Jaikumar III B.C.A. 'B' - Participation

200 Meters

Rubini Natarajan II B.C.A. 'B' - II Place

800 Meters Participation

Rubini Natarajan II B.C.A. 'B'

Nirmala Raja I B.C.A. 'C'

1500 Meters

Rubini Natarajan II B.C.A 'B' - I Place

Kopika Soosairaj I B.C.A. 'C' - Participation

4X400 Relay III Place

Kopika Soosairaj I B.C.A. 'C'

Eniya Sankar II B.C.A. 'C'

Jothika Sakthivinayagam II B.C.A. 'C'

Rubini Natarajan II B.C.A. 'B'

400 Meters

Jothika Sakthivinayagam II B.C.A. 'C'

Karpagalakshmi Ponnuswamy I B.C.A. 'C'

100 Meters

Rubini Natarajan II B.C.A. 'B'

Eniya Sankar II B.C.A. 'C'

4X100 Relay Participation

Rubini Natarajan II B.C.A. ’B’

Eniya Sankar II B.C.A. ‘C’

Monisha Ravi III B.C.A. ‘B’

Harini Selvam II B.C.A. ‘C’

BADMINTON-I PRIZE

Ms. Vandhanaa Amarnath III BCA ’A’

Ms. Jeba Amalia Thomas III BCA ’A’

Ms. MaryBrijith Anthonisamy III BCA ’A’

Ms. Elizabeth Rani Amal Raj III BCA ’A’

Ms. Anisha Balakrishnan III BCA ‘A’

KABADDI

Arisha Jaikumar II BCA ’B’

Anisha Balakrishnan III BCA ’A’

Aasha Ramesh II BCA ’C’

Hanci Lawrence III BCA ’A’

Tonypupisha Victor III BCA ’A’

SaronPrathibaa William Martin Luther III BCA ’A’

Vandhanaa Amarnath III BCA ’A’

THROWBALL

Kerena Santha Kumar III BCA ’A’

Oviya Krishnamoorthi III BCA ’A’

Soniya Thirunavukarasu III BCA ’A’

Janani Kannan III BCA ’A’

Arathi Vijaya Kumar III BCA ’A’

Arisha Jaikumar II BCA ’B’

Nirmala Raja I BCA ’C’

Logeshwari Panneer Selvam III BCA ‘A’

Reena Mercy Mohanraj II BCA ’B’

HANDBALL

Alice Vinoliya Arul III BCA ‘A’

Arisha Jaikumar II BCA’B’

Maria Angel Adaikala Samy III BCA’A’

Kerena Santha Kumar III BCA ‘A’

Shanthi Devi Durairaj II BCA ‘B’

Eniya Sankar II BCA ‘C’

Nirmala Raja I BCA ‘C’

VOLLEYBALL-I PRIZE

MaryBrijith Anthonisamy III BCA ’A’

Nirmala Raja I BCA ‘C’

Arisha Jaikumar II BCA’B’

Rachel I BCA ‘C’

Velanciya I BCA ‘B’

Abinaya Ganesh II BCA’ C’

BASKETBALL

Keerthana Ganapathi III BCA ‘A’

Nirmala Raja I BCA ‘C’

Sania Moula Khan I BCA ‘C’

Arisha Jaikumar II BCA’B’

Vidhya Jayapal I BCA ‘B’

SHORTPUT

Soniya Thirunavukarasu III BCA ‘A’

Priyadharshini A II BCA ‘C’

JAVELINE THROW

Eniya Sankar II BCA ‘C’

Nirmala Raja I BCA ‘C’

DISCUSS THROW

Kayatri Ramesh II BCA ‘B’

Harini Selvam II BCA ‘C’

HIGH JUMP

Sania Moula khan I BCA 'C' -I Prize

Keerthana Ganapathi III BCA 'A' -III Prize

LONG JUMP

Nirmala Raja I BCA 'C'

Keerthana Ganapathi III BCA 'A'

FOOTBALL

Anisha Jasmine Ratchaganathan III BCA 'A'

Nirmala Raja I BCA 'C'

Abinaya Nantha kumar II BCA 'B'

Kopika Soosai Raj I BCA 'B'

Rubini Natarajan II BCA 'B'

Deepika Karthick I BCA 'C'

Arisha Jaikumar II BCA'B'

HOCKEY

Monisha Sundara Moorthy III BCA 'A'

Kerena Santha Kumar III BCA 'A'

Varalakshmi Arasan III BCA 'A'

Marybrijith Anthoni Samy III BCA 'A'

Mariyaangel Adaikala Samy III BCA 'A'

Rubini Natarajan II BCA 'B'

Aasha Ramesh II BCA 'C'

DISTRICT LEVEL BADMINTON CHAMPIONSHIP

Jeba Amalia Thomas III B.C.A. 'A'

KABADI

Arisha Jaikumar II B.C.A 'B'

Asha Ramesh II B.C.A 'C'

DIVISION

Arisha Jaikumar II B.C.A 'B'

Volley Ball

Arisha Jaikumar II B.C.A ‘B’

Abinaya Ganesan II B.C.A ‘C’

Nirmala Raja I B.C.A.

Rachel Magesh Paul Bosco I B.C.A.

DIVISION

Arisha Jaikumar II B.C.A ‘B’

Abinaya Ganesan II B.C.A ‘C’

Rachel Magesh Paul Bosco I B.C.A.

HANDBALL

Arisha Jaikumar II B.C.A ‘B’

Nirmala Raja I B.C.A.

Saniya Moulakhan I B.C.A.

BADMINTON

Arisha Jaikumar II B.C.A ‘B’

DIVISION

Arisha Jaikumar II B.C.A ‘B’

CRICKET

Deepika Karthick I B.C.A.

Rachel Magesh Paul Bosco I B.C.A.

Nirmala Raja I B.C.A.

Saniya Moulakhan I B.C.A.

FOOTBALL

Deepika Karthick I B.C.A.

BASKET BALL (Winner)

Nirmala Raja I B.C.A.

Saniya Moulakhan I B.C.A.

Division

Nirmala Raja I B.C.A.

Saniya Moulakhan I B.C.A.

ATHLETIC

Arisha Jaikumar II B.C.A 'B'

Saniya Moulakhan I B.C.A.

Deepika Karthick I B.C.A.

CM TROPHY -2024, SPORTS DEVELOPMENT AUTHORITY OF TAMIL NADU

Volleyball III Prize

Nirmala Raja I B.C.A. 'C'

Abinaya Ganesan II B.C.A. 'C'

Rachel Mageshpaul Losco I B.C.A. 'B'

Football III Prize

Deepika Karthic I B.C.A. 'C'

Kopika Soosairaj I B.C.A. 'C'

Kabaddi Participation

Aarisha Jaikumar II B.C.A. 'B'

Aasha Ramesh II B.C.A. 'C'

Soniya Venkatesan I B.C.A. 'C'

BasketBall -III Prize

Soniya Venkatesan I B.C.A. 'C'

B.C.A. (SHIFT II)

INTRAMURALS

Running 400 Meters

Dhanalakshmi Vaithyalingam II B.C.A 'A' - III Place

Running 3000 Meters

Seetha Suresh kumar III B.C.A. 'B' - II Place

High Jump

Gayathri Vinayagam III B.C.A. 'B' - I Place

Discus Throw

Saranya Kamalanadhan II B.C.A 'A' - III Place

Shot Put

Saranya Kamalanadhan II B.C.A 'A' - II Place

4x100 Relay II Place

Gayathri Vinayagam III B.C.A. 'B'

Glady Nanette Sagayaraj II B.C.A 'A'

Dhanalakshmi Vaithyalingam II B.C.A 'A'

Vasanthi M I B.C.A. 'A'

CM TROPHY INTERCOLLEGIATE COMPETITION, VELLORE INSTITUTE OF TECHNOLOGY

Carom Participation

Jeevasree Ramesh II B.C.A. 'A'

Rajalakshmi Ramesh II B.C.A. 'A'

Chess Participation

Dhanashree Sambanthan II B.C.A. 'A'

Volley Ball

Saranya Subbarayan I B.C.A. 'A' - Runner

Badminton Participation

Kanniyammal Manikandan I B.C.A. 'A'

Sanjula Sivapragasam I B.C.A. 'A'

Basket Ball

Hemalatha Suresh I B.C.A. 'A' - III Prize

Running Participation

SadhanaPriya Ranganthan I B.C.A. 'A'

VOLLEYBALL COMPETITION, ARIGNAR ANNA ARTS AND SCIENCE COLLEGE, WALAJAH

Hemalatha Suresh I B.C.A. 'A' - I Prize

VOLLEYBALL COMPETITION, MARUDHAR KESARI JAIN COLLEGE FOR WOMEN (AUTONOMOUS), VANIYAMBADI

Hemalatha Suresh I B.C.A. 'A' - II Prize

BALL BADMINTON COMPETITION, D.K.M COLLEGE FOR WOMEN, VELLORE

Sanjula Sivaprakasam I B.C.A. 'A'

B.Sc. Computer Science

INTRAMURALS

Volley Ball Match Participation

Harini Rajasekaran I B.Sc. CS

Kharishma Mahendran I B.Sc. CS

Gopika Natraj I B.Sc. CS

Dheebisha Jayaprakash I B.Sc. CS

Vinoba Mary Sagayapaulraj III B.Sc. CS

Haritha Arunachalam III B.Sc. CS

Devika Muthu III B.Sc. CS

Throw Ball Match Participation

Miruthu Bashini Paramasivam I B.Sc. CS

Harini Rajasekaran I B.Sc. CS

Porselvi Gopi I B.Sc. CS

Mithra Sudhakar I B.Sc. CS

Gopika Chandiran III B.Sc. CS

Vinoba Mary Sagayapaulraj III B.Sc. CS

Sulochana Srinivasan III B.Sc. CS

Jayapriya Shankar III B.Sc. CS

Epsiba joyice JohnArokiyaDass II B.Sc. CS

Haritha Arunachalam III B.Sc. CS

Devika Muthu III B.Sc. CS

Shot Put Participation

Lavanya Rajesh I B.Sc. CS

Swetha Chandrasekar I B.Sc. CS

Basket Ball Match Participation

Keerthana Karunya Mangai I B.Sc. CS

Miruthu Bashini Paramasivam I B.Sc. CS

Mahalakshmi Raman I B.Sc. CS

Harini Rajasekaran I B.Sc. CS

Gopika Nataraj I B.Sc. CS

Haritha Arunachalam III B.Sc. CS

Vinoba Mary Sagayapaulraj III B.Sc. CS

Epsiba Joycie John Arokiya Dass III B.Sc. CS

Priyadharshini Ramakrishan III B.Sc. CS

Sulochana Srinivasan III B.Sc. CS

Devika Muthu III B.Sc. CS

Jayapriya Shankar III B.Sc. CS

Foot Ball Match Participation

Nidhi Shree Rajendraprasath I B.Sc. CS

Miruthu Bashini Paramasivam I B.Sc. CS

Mahalakshmi Raman I B.Sc. CS

Porselvi Gopi I B.Sc. CS

Vinoba Mary Sagayapaulraj III B.Sc. CS

Haritha Arunachalam III B.Sc. CS

Priyadharshini Ramakrishan III B.Sc. CS

Epsiba Joycie JohnArokiyaDass III B.Sc. CS

Shuttle Participation

Umamageswari Saravanan I B.Sc. CS

Nisha Chandrasekaran III B.Sc. CS

Hand Ball Match Runner Up

Porselvi Gopi I B.Sc. CS

Poornima Ramesh I B.Sc. CS

Nidhi Shree Rajendraprasath I B.Sc. CS

Miruthu Bashini Paramasivam I B.Sc. CS

Dheebisha Jayaprakash I B.Sc. CS

Sulochana Srinivasan III B.Sc. CS

Jayapriya Shankar III B.Sc. CS

Epsiba Joyice JohnArokiaDas III B.Sc. CS

Haritha Arunachalam III B.Sc. CS

Vinoba Mary Sagayapaulraj III B.Sc.CS

Devika Muthu III B.Sc. CS

Hockey Match Participation

Nidhi Shree Raj I B.Sc. CS

Miruthu Bashini Paramasivam I B.Sc.CS

Sandhiya Rajendran I B.Sc. CS

Vinoba Mary Sagayapaulraj III B.Sc. CS

Javelin Throw Participants

Harini Rajasekaran I B.Sc. CS

Porselvi Gopi I B.Sc. CS

Disc Throw Participants

Nidhishree Rajendraprasath I B.Sc. CS

Vinoba Mary Sagayapaulraj I B.Sc. CS

INTER – COLLEGIATE Kabadi Match Participants

Harini Rajasekaran I B.Sc. CS

Miruthu Bashini Paramasivam I B.Sc. CS

Priyadharshini Ramakrishnan III B.Sc. CS

Haritha Arunachalam III B.Sc. (CS)

Vinoba Mary Sagayapaulraj III B.Sc. CS

Priya Vijayakumar II B.Sc. CS

EXTRA-CURRICULAR ACTIVITIES

B.C.A (Shift I)

The PG Department of Social Work, in collaboration with the Department of Computer Applications, hosted an event to celebrate International Youth Day. The celebration focused on recognizing and celebrating the contributions of young people to society. A major highlight of the day was an e-waste collection drive, led by students from the MSW and Computer Applications departments. This initiative was designed to promote environmental awareness and address the global challenges that today's youth face. Students from different departments participated by bringing their e-waste to the campus, underscoring the importance of responsible disposal and environmental stewardship. The collected e-waste was responsibly managed by Willeys Enterprise, Vellore, ensuring it was processed and disposed of in an environmentally sustainable way.Ms. Elavarasi Paul Head of the Department of MSW and Ms. Anita Madona Mariadass Asst. Prof. of Computer Applications were the coordinators of the programme.

As part of an e-waste initiative, the Department of Computer Applications (Shift I) conducted an industrial visit to Willys Enterprises in Perumugai, Auto Nagar, Vellore on 16.09.2024. The purpose of the visit was to learn about the collection and disposal of e-waste. The Director of Willys Enterprises, Mr. Sadhu Sundar Singh, along with his engineers, explained how the increasing demand for electronic devices has led to a significant rise in e-waste, posing a threat to the environment. Around 20 students participated in the visit and gained valuable insights into electronic waste recycling, metal recycling, and battery recycling. They also learned about data destruction, specifically how data on hard drives is securely erased, including formatting with the serial number. The team demonstrated shredders, double-shaft shredders, granulators, separators, and crushers, illustrating how e-waste is processed, granulated, and separated. Additionally, they learned how Willys Enterprises collaborates with the state pollution control board to handle and dispose of electronic waste responsibly.

The Department of Tamil organized Muthamilvizha one week of vibrant celebration of Tamil culture, conducted many events like Poetry Competition, Essay Writing, Drawing Competition, Speech Competition, Singing Competition and Dance Competition as a devotion to Tamil heritage. Students from Computer Applications Department participated in various events and won prizes.

The Department of Computer Applications (Shift I) at Auxilium College, Vellore, organized a e-Poster Presentation centered on the theme "Anti-Ragging Campaign." The initiative aimed to engage students in raising awareness about the serious issue of ragging, fostering a culture of respect and support within the college community. The event promoted anti-ragging messages, encouraging students to create content that could serve as effective tools in spreading awareness. Participants were invited to contribute in two major categories: Social Media Campaigns, which included creative visual content designed for platforms like posters, and Podcasts, focusing on discussions about the impact of ragging, preventive measures, and personal experiences. All submissions were required in JPEG format for posters and MP3 format for podcasts. Received e-Posters are judged on August13, 2024.The entries were evaluated based on creativity, relevance to the theme, and the effectiveness of the message. Dr. Gina George, Asst. Professor of Computer Applications, Auxilium College., judged the submissions, bringing her expertise in both academic and practical aspects of computer science to the evaluation process. The winners were who secured the first prize Keerthana Vivekanandan.-II B.C.A ‘C’, and Jenisha Catherine William- II B.C.A ‘B’,who won the second prize.

Vishnu Priya Ramesh.- II B.C.A ‘C’ who won the third prize. The event successfully encouraged students to engage with the critical issue of ragging, utilizing their creative skills to produce impactful content. It fostered a sense of responsibility among participants to contribute to a positive and safe college environment, emphasizing the importance of collective action in combating ragging and ensuring that every student feels secure and respected within the academic community.

In honor of India's 78th Independence Day, The Department of Computer Applications(Shift-I) organized an Art craft competition on patriotism on August 14, 2024. The event aimed to encourage students to express their patriotic feelings through creative art. The participants showcased their artistic skills by creating various craft items, such as paintings, posters that reflected the theme of patriotism. The event was judged by Ms. Priyadharshini Asokan, Asst. Professor of Physics, Auxilium College. The winners were who secured the first prize Janani Dhayanandhan.-II B.C.A ‘B’, Kavitha Mohanraja.-II B.C.A ‘C’ who won the second prize and Keerthana Vivekanandan.-II B.C.A ‘C’ who won the third prize.

The BCA III Year students of Auxilium College (Autonomous) visited Tech Mahindra Chennai, on 27th February 2025. The visit provided students with HR session -The Overview of Organization, Next P2 Band Leader session – Career Scope in IT organization and how to prepare themselves and HR Session – Campus Hiring Process and preparations Finally students were allowed for campus walk around. The faculty members of the Department of Computer Applications, Ms. Sivaranjini N., accompanied the students and coordinated the visit.

B.C.A (Shift II)

In honor of India's 78th Independence Day, the Department of Computer Applications (Shift II) held a quiz tournament on August 14, 2024, with the theme "India's Rich Heritage." The purpose of the event, which started at 12:30 pm in the Computer Block, was to assess students' knowledge and understanding of India's rich historical legacy and its relevance in the contemporary world. As part of the Independence Day celebrations, this competition gave students a chance to get a deeper comprehension and respect of India's cultural past. Ms. Shanthi Subramani and Ms. Gayatri Sivakumar, Assistant Professors in the Department of Computer Application (Shift II), administered an online quiz. Sixteen students from the Computer Application department enthusiastically participated in the quiz competition. Questions on many aspects of India's ancient past, including historical monuments and architecture, art, literature, and culture, as well as the liberation struggle and independence movement, were included in the assessment. Google Form was used to submit the questions. First place was awarded to Ms. R. Tamizissai Selvi of III BCA, second place awarded to Ms. S. Varsha of II BCA, and third place awarded to Ms. N. Shahida Banu of I BCA.

The Department of Computer Applications (Shift II) at Auxilium College, Vellore, organized a Content Creation event centered on the theme "Anti-Ragging Campaign." The initiative aimed to engage students in raising awareness about the serious issue of ragging, fostering a culture of respect and support within the college community. The event promoted anti-ragging messages, encouraging students to create content that could serve as effective tools in spreading awareness. Participants were invited to contribute in two major categories: Social Media Campaigns, which included creative visual content designed for platforms like posters, and Podcasts, focusing on discussions about the impact of ragging, preventive measures, and

personal experiences. All submissions were required in JPEG format for posters and MP3 format for podcasts. The announcement was made on August 12, 2024, and participants were instructed to submit their work by August 16, 2024, via the designated email address. The entries were evaluated based on creativity, relevance to the theme, and the effectiveness of the message.

Ms. Nisha Pauline, Assistant Professor in the Department of Computer Science, judged the submissions, bringing her expertise in both academic and practical aspects of computer science to the evaluation process. The winners were ShahidaBanu N (I BCA), who secured the first prize, and Lisha D (I BCA), who won the second prize.

The event successfully encouraged students to engage with the critical issue of ragging, utilizing their creative skills to produce impactful content. It fostered a sense of responsibility among participants to contribute to a positive and safe college environment, emphasizing the importance of collective action in combating ragging and ensuring that every student feels secure and respected within the academic community.

Students of II BCA, Janani Kumaresan, Janani Elango and Sandhiya Raji participated in Drawing Competition conducted by Health and Finance Club, Auxilium College for women(Autonomous) on 30.08.2024. B.C.A. students actively participated in the dance competition organized by the Department of Tamil on the occasion of Muthamizh Vizha, held on September 6, 2024.

The following students participated in the Essay competition conducted by ASQC Club on 25.09.2024, Many of B.C.A. students participated. Enviro Club in collaboration with Tamil Nadu Pollution Control Board, Vellore Organizes an International Conference on “Youth For Earth : Restore and Protect Our Environment “ at Auxilium College Auditorium at 09:30 AM. 47 Students from II BCA actively took part in the conference and received certificates on 10.10.2024. The following students participated in the competition of World Food Day Organized by Traditional Food ASQC Club in Library Seminar Hall at 10:00 AM on 16.10.2024 I B.C.A. students participated.

Students participated in Shakespeare‘s Quiz Competition held at Computer Block conducted by the Department of English on 23.10.2024, II B.C.A. students participated. II B.C.A. NSS students participated in Poster Presentation on the topic “Breast Cancer Awareness” conducted by NSS on 24.10.2024. On 24.10.2024, the NSS Club organized an awareness programme on “Breast Cancer”. 17 Students from II BCA participated in the awareness programme.

Monika Venugopal and YuvaraniIlango from I BCA ‘A’ (Shift II) participated in the Dubbing Competition held on 09.12.2024. The Competition was organized by the Drama Club of Auxilium College. Both of them won First Prize.

The Department of Computer Applications (Shift II) presented a skit during Gratitude Day, expressing heartfelt thanks to the management, faculty, staff, students, parents, and alumni. The skit creatively likened them to nine precious gems, symbolizing their invaluable contributions. This thoughtful performance highlighted the department’s gratitude and fostered a spirit of unity and appreciation. The audience warmly applauded the tribute, making the celebration memorable.

As part of the extension activity, the students of PG Department of Computer Science and UG Department of Computer Applications (Shift II), Auxilium College (Autonomous), Vellore, visited Priyadharshini Special School on January 24, 2024. The visit aimed to foster social responsibility and awareness among students about autism and intellectual disabilities while providing them an opportunity to engage with children who require special education and care. The School located at No. 9/18, 5th East Main Road, Gandhi Nagar, Vellore – 632006. The faculty members of the Department of Computer Applications, Dr. Shanthi AL, Dr. Tharani S., and Ms. Shanthi S., accompanied the students and coordinated the visit.

The BCA III Year students of Auxilium College (Autonomous) visited Process Drive located at SF1 & SF2, ELCOT IT Park, Bagalur Road, Viswanathapuram, Hosur, Krishnagiri, Tamil Nadu - 635109, on 31st January 2025.

The visit provided students with valuable industry exposure, allowing them to gain practical insights into IT infrastructure, software development life cycle (SDLC), cloud computing, cybersecurity, and emerging technologies.Industry experts conducted an informative session, explaining the company's operational workflows, project management strategies, quality assurance practices, and technological innovations. The faculty members of the Department of Computer Applications, Dr. Shanthi AL, and Ms. Gayatri S., accompanied the students and coordinated the visit.

B.Sc., Computer Science

The Department of Tamil organized Muthamilvizha one week of vibrant celebration of Tamil culture, conducted many events like Poetry Competition, Essay Writing, Drawing Competition, Speech Competition, Singing Competition and Dance Competition as a devotion to Tamil heritage. Students from Computer Science Department participated in various events and won prizes.

Rohini Ranganathan from III B.Sc. Computer Science won II Prize in Poetry Competition. Ashitha Mohan from III B.Sc. Computer Science won II Prize in Essay Writing Competition. Pavitra Saravanan from III B.Sc. Computer Science won III Prize in Drawing Competition. Devi Vijayan from I B.Sc. Computer Science won III Prize Speech Competition. Sherine Louis from II B.Sc. Computer Science won II Prize in Singing Competition.

Haritha Arunachalam., Poorvika Palani, Rencia Rex, Reshika Senthilkumar, Epsiba Joycie John Arokiya Dass, Nandhini Harimoorthy, Swathi Saravanan, Aarya Rajendran from III B.Sc. Computer Science are the runners of Dance Competition. The Department of Computer Science Student Monica Saravanan from II B.Sc. Computer Science won Best Actress Award. The Department of English conducted various competitions in English Dramatics Competition like Dramatics and Portrayal. The students from Computer Science were actively participated.

ACADEMIC RESULTS

The Results achieved by Postgraduate and Undergraduate Students from Computer Science and Applications Departments are:

M.Sc. Computer Science - 100%

B.C.A. (Shift I) - 86%

B.C.A. (Shift II) - 97.83%

B.Sc. Computer Science - 92%

DEPARTMENT TOPPERS

Nimra Saman H.
M.Sc. Computer Science

Kaviya Shri A.
B.C.A (Shift I)

Umavathi A.
B.C.A (Shift II)

Mahek A.
B.Sc. Computer Science

STUDENTS PLACED IN CAMPUS INTERVIEW

Students from the Department of Computer Science and Applications were selected in the Campus Interview conducted by various National and Multinational companies. The list of students placed is as below:

M.Sc. Computer Science
Tata Consultancy Services (TCS)

Kavitha R. – II M.Sc. Computer Science

Nimra Saman H. – II M.Sc. Computer Science

Sandhiya R. – II M.Sc. Computer Science

B.C.A (Shift I)
AGS Health Care Pvt. Ltd.

Gayathri M. – III B.C.A

Sunbeam CBSE Hr. Sec. School

Sneha S – III B.C.A

B.C.A. (SHIFT II)
Factentry Data Solutions, Vellore

Aneesa Saathiya N. – III B.C.A

Sutherland, Chennai

Gayathri V. – III B.C.A

Exchange Data International Pvt ltd, Katpadi

Hemalatha A. – III B.C.A

Sri Balaji Construction, Chennai

Lavanya S. – III B.C.A

NAVIGATING THE FUTURE: KEY IT TRENDS SHAPING 2025

As we progress through 2025, the Information Technology (IT) landscape is undergoing transformative changes. Emerging technologies are redefining industries, influencing business strategies, and reshaping societal interactions. This article delves into the pivotal IT trends of 2025, offering insights into their implications and potential trajectories.

1. Agentic AI

Agentic Artificial Intelligence (AI) refers to systems capable of autonomous decision-making, learning, and action without human intervention. These AI agents are revolutionizing sectors like finance, healthcare, and customer service by enhancing efficiency and enabling personalized experiences. Their ability to process vast datasets and adapt to new information positions them as invaluable assets in the modern enterprise.

2. Quantum Computing

Quantum computing is transitioning from theoretical research to practical applications. Its unparalleled processing power is poised to tackle complex problems in cryptography, material science, and optimization tasks. As quantum computers become more accessible, industries are exploring their potential to solve challenges previously deemed insurmountable.

3. Spatial Computing

Spatial computing integrates digital and physical environments, enabling interactions with 3D spaces through augmented reality (AR) and virtual reality (VR). This technology is enhancing fields such as education, real estate, and entertainment by providing immersive experiences and innovative solutions to spatial challenges.

4. Ambient Invisible Intelligence

Ambient Invisible Intelligence involves embedding AI seamlessly into everyday environments, allowing systems to anticipate and respond to user needs proactively. This trend is leading to the development of smart homes, offices, and public spaces that adapt to human behaviors, enhancing convenience and efficiency.

5. Neuromorphic Computing

Neuromorphic computing aims to mimic the neural structures of the human brain, leading to more efficient and powerful processing capabilities. This approach holds promise for advancing AI applications, particularly in pattern recognition and sensory processing tasks, by offering energy-efficient solutions to complex computational problems.

6. Cyber security Innovations

With the increasing sophistication of cyber threats, cyber security has become a paramount concern. Innovations in this field include the development of advanced threat detection systems, implementation of zero-trust architectures, and the use of AI to predict and mitigate potential security breaches. These measures are essential to protect sensitive data and maintain trust in digital systems.

7. Sustainable IT

Environmental considerations are influencing IT strategies, leading to the adoption of green technologies and sustainable practices. Efforts include optimizing energy consumption in data centers, utilizing renewable energy sources, and designing eco-friendly hardware.

Sustainable IT not only reduces environmental impact but also appeals to environmentally conscious consumers and stakeholders.

8. Hybrid Computing

Hybrid computing combines classical and quantum computing, leveraging the strengths of both to address complex computational challenges. This approach allows for more versatile and efficient problem-solving capabilities, particularly in fields requiring intensive data processing and real-time analysis.

9. Poly functional Robots

Advancements in robotics have led to the creation of poly functional robots capable of performing multiple tasks across various domains. These robots are utilized in manufacturing, healthcare, and service industries, enhancing productivity and addressing labor shortages by taking on repetitive or hazardous tasks.

10. AI Governance Platforms

As AI systems become more integral to decision-making processes, establishing robust governance frameworks is essential. AI governance platforms ensure that AI applications adhere to ethical standards, regulatory requirements, and societal values, promoting transparency and accountability in AI deployments.

Ms. S. Gayatri, Asst. Professor (B.C.A- Shift II)

TECH WAR 2025

In 2025, the U.S. and China are in a big technology competition, also called the "Tech War." They are fighting to be the leader in artificial intelligence (AI), computer chips, and

internet technology. A new Chinese AI company, DeepSeek, has become a key player in battle.

What is the Tech War About?

AI Race: The U.S. has Open AI, but China's Deep Seek is catching up fast.

Computer Chips: The U.S. blocked China from getting advanced chips, so China is making its own.

Quantum Computing: Both countries are working on super-powerful computers that could change cyber security.

Internet Technology (5G & 6G): The U.S. and China are racing to control the future of internet speed.

Deep Seek: China's AI Power

Deep Seek is a Chinese AI company growing fast. Its AI is smart, efficient, and cheaper than Western AI models. It is challenging Open AI's Chat GPT and making AI more powerful in China.

Concerns about Deep Seek

Some worry about data privacy and government control.

The U.S. fears Deep Seek could be used for surveillance or military purposes.

CONCLUSION:

The Tech War of 2025 is shaping the future of AI and the digital world. Deep Seek is proving that China is a strong competitor in AI. The battle for technology power is still ongoing, and its results will affect the entire world.

R. Janani
II-B.C.A "B"

CYBER SECURITY

Cyber Security: Protecting Digital World

Introduction

In an era where digital transformation is at its peak, Cyber Security has become a critical aspect of protecting sensitive information and maintaining digital trust. Cyber-attacks have grown more sophisticated, targeting individuals, corporations, and even governments. This article explores cyber security in-depth, covering its importance, key threats, advanced security measures, and emerging trends.

Importance of Cyber Security

Cyber Security is the practice of protecting systems, networks, and data from cyber threats.

1. Data Confidentiality: Preventing unauthorized access to sensitive information.

2. Integrity: Ensuring that data remains accurate and unaltered.

3. Availability: Guaranteeing that authorized users have reliable access to data and services.

4. Compliance: Adhering to regulations such as GDPR, HIPAA, and ISO 27001.

With increasing reliance on digital infrastructure, businesses and individuals must prioritize cyber security to prevent financial loss, reputation damage, and legal consequences.

Major Cyber Threats

Cybercriminals continuously evolve their tactics, making it crucial to stay informed about major threats:

1. Malware

Malware includes viruses, worms, ransom ware, and spyware that infect devices to steal, damage, or encrypt data. Ransom ware is particularly devastating, locking users out of their systems until a ransom is paid.

2. Phishing & Social Engineering

Attackers manipulate individuals into revealing personal information through fake emails, websites, or phone calls. Spear phishing is a targeted form of phishing that uses personalized details to increase credibility.

3. Advanced Persistent Threats (APTs)

APTs involve continuous, stealthy hacking over an extended period, often targeting government agencies or multinational corporations.

4. Zero-Day Exploits

These attacks take advantage of software vulnerabilities before developers can issue a fix. Hackers exploit these weaknesses to gain unauthorized access.

5. Distributed Denial of Service (DDoS)

Distributed Denial of Service attacks flood a network with traffic, overwhelming servers and disrupting services. Botnets, networks of compromised devices, often facilitate these attacks.

Cyber Threats

Some key approaches include:

1. **Zero Trust Security**

The Zero Trust model assumes that no user or device is trustworthy by default. It enforces strict identity verification, least privilege access, and continuous monitoring.

2. **Multi-Factor Authentication (MFA)**

MFA requires users to verify their identity through multiple credentials (e.g., password, fingerprint, one-time code), adding an extra layer of security.

3. **Endpoint Detection & Response (EDR)**

EDR solutions continuously monitor and analyze endpoint activities, detecting threats in real time and responding swiftly to incidents.

4. **Information & Event Management (SIEM)**

SIEM systems collect and analyze security logs to detect anomalies, providing real-time threat intelligence and automated response mechanisms.

5. **Artificial Intelligence (AI) & Machine Learning in Cyber security**

AI enhances threat detection, behavior analysis, and automated response. Machine learning helps identify unusual activities and predict potential attacks.

6. **Penetration Testing & Ethical Hacking**

Security professionals conduct simulated cyber-attacks to identify vulnerabilities before malicious actors exploit them.

Cyber security Best Practices

Both individuals and organizations can adopt best practices to strengthen their cyber security posture.

Use Strong Passwords: Utilize complex, unique passwords and a password manager.

Keep Software Updated: Regularly update OS, applications, and security patches.

Enable Firewalls & Antivirus: Protect devices with reliable security software.

Be Cautious with Emails & Links: Avoid clicking on suspicious links or attachments.

Regular Backups: Store critical data in secure, offline locations.

Secure Wi-Fi & Use VPNs: Encrypt internet connections and avoid public Wi-Fi without VPN protection.

Limit Data Sharing: Share sensitive information only on trusted platforms.

Emerging Trends in Cyber Security

1. **Quantum Computing & Cryptography**

Quantum computing threatens current encryption methods. Researchers are developing post-quantum cryptography to secure future communications.

2. **Block Chain for Security**

Block chain enhances security through decentralization, making it harder for hackers to alter transaction records.

3. **Cyber Security Mesh Architecture (CSMA)**

CSMA creates a distributed security approach where multiple security services work together, enhancing protection across cloud and on-premises environments.

4. **Deep Fake Threats**

AI-generated deep fakes pose risks to identify verification and misinformation. Organizations are investing in deep face detection tools.

5. **Internet of Things (IoT) Security**

With billions of connected devices, IoT security is critical to prevent breaches in smart homes, healthcare, and industrial systems.

Conclusion

Cyber security is an ever-evolving field that requires proactive measures, advanced technologies, and user awareness. Whether you're an individual or a business, adopting strong cyber security practices is essential to safeguarding digital assets in an increasingly interconnected world. As cyber threats grow, staying ahead with innovative security solutions will be crucial for a secure digital future.

A. Aliya Tabasum

II-B.C.A – "B"

ARTICLE ON 5G AND NEXT

GENERATION COMMUNITY: 6 G VISION

The fifth generation (5G) of the cellular networks will highlight and address three broad views, as:

User-Centric (by providing 24×7 device connectivity, uninterrupted communication services, and a smooth consumer experience),

Service-Provider-Centric (by providing a connected intelligent transportation systems, road-side service units, sensors, and mission critical monitoring/tracking services), and

Network-Operator-Centric (by providing an energy-efficient, scalable, low-cost, uniformly-monitored, programmable, and secure communication infrastructure).

Applications of 5G networks:

The zero latency, high speed data transfer, and ubiquitous connectivity are the salient features of 5G networks that are expected to serve a wide range of applications and services.

Understanding 6G: The Next Frontier

While 5G has ushered in a new era of connectivity, the impending arrival of 6G promises to redefine the boundaries of what's possible. 6G, the sixth generation of wireless technology, represents a paradigm shift beyond mere speed enhancements. It is a comprehensive ecosystem designed to seamlessly integrate cutting-edge technologies like artificial intelligence, edge computing, and the Internet of Things (IoT), creating a truly intelligent and interconnected world.

The transition from 5G to 6G is not just a step forward but a monumental leap. While 5G has delivered unprecedented data rates and low latency, 6G aims to elevate these capabilities to new heights. However, the true potential of 6G extends beyond pure performance metrics. It has the power to revolutionize industries, enable new applications, and unlock possibilities that were once confined to the realm of science fiction, sparking a wave of excitement and anticipation.

Despite the allure of 6G, it is crucial to recognize that the journey towards this next frontier does not negate the importance of 5G. In fact, 5G serves as a vital stepping stone, laying the groundwork for the seamless integration of 6G into existing infrastructure. The business case for 5G remains strong as it continues to enable groundbreaking applications across various sectors, from remote healthcare to autonomous vehicles. As the demand for data-driven services continues to soar, 5G's robust capabilities remain indispensable, paving the way for a smooth transition to the 6G era.

The key features and capabilities of 6G technology are poised to revolutionize how we live, work, and interact with the world around us.

Jenisha Catherine.W

II-B.C.A ‘B’

POEM

"Codes and Ciphers, Circuits and Screens"

In silicon halls, where data reigns

A world of wonder, where tech sustains

From bits to bytes, to apps so fine

The digital dream, where innovation shines

With every click, a new path's laid

Through algorithms and loops, problems are swayed

In cyber realms, where hackers roam

Security's the key, to keep the digital home

From AI to IoT, to cloud and more

The tech horizon, is endless in store

With each new app, a story's told

Of innovation, of progress, young and old

So let us code, and create with flair

And bring to life, the digital air

For in this realm, of 1s and 0s

Lies a world of wonder, where tech overflows.

V. Madhumitha

II- B.C.A "B"

ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) refers to the ability of machines to mimic human intelligence by performing tasks like learning, reasoning, problem-solving, and adapting to new situations, achieved through complex algorithms that analyse vast amounts of data to identify patterns and make informed decisions essentially, it's about teaching computers to "think" and act like humans, enabling them to perform complex functions without explicit programming in various fields like healthcare, finance, and transportation, with examples including voice assistants like Siri and Alexa, self-driving car technology, and advanced recommendation systems on online platforms.

Computer vision enables computers to identify objects and people in pictures and photos. Natural language processing (NLP) allows computers to understand human language. Graphical processing units are computer chips that help computers form graphics and images through mathematical calculations. The Internet of Things is the network of physical devices, vehicles, and other objects embedded with sensors, software, and network connectivity, that collect and share data. Application programming allows two or more computer programs or components to communicate with each other.

As AI technology advances, its impact on society is expected to grow significantly, with potential for further breakthroughs in healthcare, scientific research, and various industries, while also necessitating careful consideration of ethical implications and responsible development practices.

Divya Sri K.
I B.C.A–"C"

THE HEART OF INNOVATION

In circuits bright, a world unfolds,
A dance of data, swift and bold.
From room-sized giants, slow and vast,
To sleek devices built to last.
A tap, a click, the screen ignites,
Bringing knowledge, dreams, and lights.
In lines of code, a future's spun,
A digital age has just begun.
From work to play, from health to art,
Computers weave into each heart.
Trending tech, AI in bloom,
Shaping worlds beyond the room.
Yet as we race to what's ahead,
Let wisdom guide the paths we tread.
For every byte and every stream,
May serve to build, inspire, and dream.

LAKSHAYA.K

III-B.C.A (Shift II)

THE ART OF CODE

In lines of text, a world takes shape,
With loops that spin and bits that wake.
A silent language, sharp and true,
Where dreams are built in black and blue.
A single bug, a broken chain,
A missing brace, a world in pain.
Yet patience guides the searching eyes,
To find the flaw and make it rises.
With logic's hand and mind so keen,
We shape the unseen, yet pristine.
A spark of thought, a function's call,
A digital world—our craft, our all.

S.Madhu Mithra

III-B.C.A (Shift II)

THE PULSE OF PROGRESS IN TECH!

In the world of zeros, and ones that fly,
Innovation’s rhythm, reaching to the sky.
From silicon chips to the cloud so high,
We’re dancing to the beat, technology’s why.

It’s the pulse of progress, in every line,
From code to connection, the future’s divine.
In the world of bytes, where we all align,
Let’s groove with the rhythm, it’s all by design!

Microprocessors, fast and so sleek,
The power of AI, it’s what we seek.
From virtual worlds to the data we keep,
The beat never stops, it’s a future so deep.
It’s the pulse of progress, in every line,
From code to connection, the future’s divine.
In the world of bytes, where we all align,
Let’s groove with the rhythm, it’s all by design!

Through the interne’s veins, we send and receive,
Tech keeps evolving, there’s more to believe.
From gadgets to apps, we never deceive,
Innovation&’s heartbeat, we all conceive.
It’s the pulse of progress, in every line,
From code to connection, the future’s divine.
In the world of bytes, where we all align,
Let’s groove with the rhythm, it’s all by design!

Now look to the future, it’s shining bright,
Quantum computing, taking its flight.
In this digital world, where day meets night,
Bytes & Beats will guide us to the light.
It’s the pulse of progress, in every line,
From code to connection, the future’s divine.
In the world of bytes, where we all align,
Let’s groove with the rhythm, it’s all by design!

P. Ramya Reena
III-B.C.A (Shift II)

COMPUTER PUZZLES

1. **Binary Riddle**
   I speak in ones and zeroes, small but wise,
   I store your memories, I analyze.
   Without me, no data, no screen, no light,
   What am I?

2. **Code Breaker**
   A secret message is hidden in this code:
   01001000 01100101 01101100 01101100 01101111
   Can you decode it into English?

3. **The Missing File**
   A hacker stole a file and left a clue:
   "My location is hidden within the sum of 1 to 100."
   Where is the file hidden?

4. **Password Puzzle**
   A programmer set a password that follows this rule:
   - It has 8 characters.
   - The first four are letters: "Comp"
   - The last four are numbers, forming a square of another number.
   What could the password be?

5. **Cryptic Code**
   Decode the following message, which is encrypted using a simple letter-shifting technique:
   "Wklv lv d frpsxwhusxccoh!"
   (Hint: Shift each letter back by 3 in the alphabet.)

6. **Riddle Me This**
   I have keys but open no locks. I have space but no room. You can enter but not leave. What am I?

7. **Missing Letters (Computer Terms)**
   Fill in the missing letters to complete these computer-related words:
   a) F_R_W_R_ (_ _ _ _ _ _ _)
   b) C_A_HE (_ _ _ _ _)
   c) A_G_R_T_M (_ _ _ _ _ _ _ _ _)

8. **Logic Challenge (File Extensions)**
   Which file type does *not* belong to this group?
   a) .jpg
   b) .png
   c) .gif
   d) .mp3

9. **Computer Science Riddle**
   I store everything but remember nothing. I can be inside your device or on the cloud. What am I?

10. **The Hacker's Challenge**
    A hacker leaves this encrypted message behind:
    "72 101 108 108 111, 87 111 114 108 100!"
    Can you decrypt it?
    (Hint: These are ASCII values.)

ANSWERS

1. A computer processor (CPU)
2. "Hello"
3. The file is in folder 5050.
4. Comp2025 → 2025 is 45^2
5. "This is a computer puzzle!"
6. A keyboard

DIVYASAKTHI M
III-B.C.A(Shift II)

PUZZLES

1. I am a digital ghost. I can haunt your computer, but I can also make it run faster. What am I?

   Answer: A virus

2. I have keys, but open no locks. I have a space, but no room. You can enter, but can't go outside. What am I?

   Answer: A keyboard

3. I'm the brain of the computer, but I can't think. What am I?

   Answer: The CPU (Central Processing Unit)

4. I connect networks, but I'm not a bridge. What am I?

   Answer: A router

5. I'm a protocol for communication, but I'm not a diplomat. What am I?

   Answer: TCP/IP (Transmission Control Protocol/Internet Protocol)

6. I am a type of software that helps you find your way around the internet, but I'm not a GPS. What am I?

   Answer: A web browser.

7. I am a small, circular device that you use to navigate the screen. I'm not a finger, but I can point. What am I?

   Answer: A mouse.

8. I am made of ones and zeros, but I am not a person or a computer. I'm the language that computers understand, and I run without a voice. What am I?

   Answer: Binary code.

9. I am not a human, but I can learn from data and become smarter. You use me to make decisions, but I'm not a person. What am I?

   Answer: Machine learning or AI (Artificial Intelligence).

10. I am a collection of data, but I am not a book. I am organized and can be accessed, but you can't see me. What am I?

    Answer:

    1. A virus
    2. A keyboard
    3. The CPU (Central Processing Unit)
    4. A router
    5. TCP/IP (Transmission Control Protocol/Internet Protocol)
    6. A web browser.
    7. A mouse.
    8. Binary code.
    9. Machine learning or AI (Artificial Intelligence).
    10. A database

Varsha S.
II-B.C.A (Shift II)

ETHICS IN ARTIFICIAL INTELLIGENCE

Navigating the Future of Technology Artificial Intelligence (Al) has quickly moved from the realm of science fiction to a critical part of our daily lives. From self-driving cars to personalized recommendation systems, Al has transformed industries and reshaped society in profound ways. However, this technological revolution comes with a pressing need to address ethical concerns. As Al systems become more autonomous and integrated into decision-making, the ethical implications of their design and use are far-reaching.

The Ethics Dilemma:

Machines with Moral Judgment At the heart of Al ethics lies the question: can machines make decisions that reflect human values? A prime example is the use of Al in autonomous vehicles. Imagine a self-driving car confronted with a situation where it must decide whom to harm in an accident-a pedestrian or the car's passengers. This "trolley problem" scenario poses a critical ethical dilemma. Engineers and researchers are grappling with how to program Al to make moral choices, considering factors like the value of human life, the age of individuals, and societal norms. This isn't a hypothetical; Al systems are already being tested in real world scenarios where these decisions could soon become life or death situations.

The Hidden Danger:

Another unsettling reality is the inherent bias that Al can inherit from human creators. In 2018, the ProPublica investigation revealed that an Al system used by the U.S. judicial system to predict the likelihood of reoffending was disproportionately biased against Black defendants. It predicted higher recidivism rates for Black individuals compared to White individuals, even when the crimes committed were similar. The Al was not inherently biased, but it learned from historical data that reflected societal inequalities. This shows how Al systems, if not properly monitored, can perpetuate and even amplify existing.

Too good for scams:

Guernsey police released the advice for safety internet day. The force advised people to be sceptical of deals, prizes or investment opportunities that promised “high returns with little risk”.

Prithika.S

I-B.C.A (Shift II)

AWARENESS THOUGHT

A must-read for everyone who drives a car or bike… Read!

The roads don't know that you were born to achieve

Do the speeding vehicles know that you are the dawn of our home…… Do the pioneers who are ahead know that you are the address of our home…….

Do the heavy vehicles passing by know? You are our apple of our eye……

We trust you as the dawn, as our hope and our future…… We have been waiting for you since the day you were born, for those who cannot wait for the next bus for five minutes. We have been waiting for you to save us from the day you were born. I am your shadow, who taught me to walk by holding your finger and cross the shore and the sea. I, the father, will stay awake until you come…… You have gone to the office, we are waiting for you to return. Come back carefully, without breaking or getting tired. The paths you are taking may be just a journey for you. We only know that you are fighting against time……

Recognize that this life that you have lived with your mother, father, brother and sister is a blessing. Hanging and chasing may be the speed of your blood, but you can never escape death. If you do not act wisely, all your relatives who are more important than life waiting at home will be taken to the government hospital morgue for an autopsy. Do you know that it will make you wait…….. So please drive slowly while driving

If you are a son or daughter, the heir of a family is gone!

If you are a husband or wife, the family is gone!

If you are a father or mother, the whole family is gone!

The story ends with a moment of lapse of attention, friend!

Drive carefully!

Wait for your relatives!

Haritha A.

III B.Sc. Computer Science

REBIRTH !

A tree that holds an umbrella A meadow that spreads a mat

Even when we lie down and sleep It will lose its hunger!

A flock of birds that paints colorful paintings The sky is filled with rainbows

The world that enchants and amazes!

The mountains that touch the sky The clouds that embrace it

Sing me poetry

And sprinkle joy on it!

The breeze that caresses my cheek Like a small child's finger

Makes me a poet, so it will Give me countless blessings!!

No one is an orphan in this world As long as there is wind

To give sweetness And sky to guide!

Come,

Let us give fragrance to the flowers That are devoid of fragrance

Let us sow love in the hearts That are devoid of love!

Let us lend a shoulder In times of sorrow

Let us see and respect nature as a mother!!

Haritha A.

III B.Sc. Computer Science

CLOUD COMPUTING

Introduction:

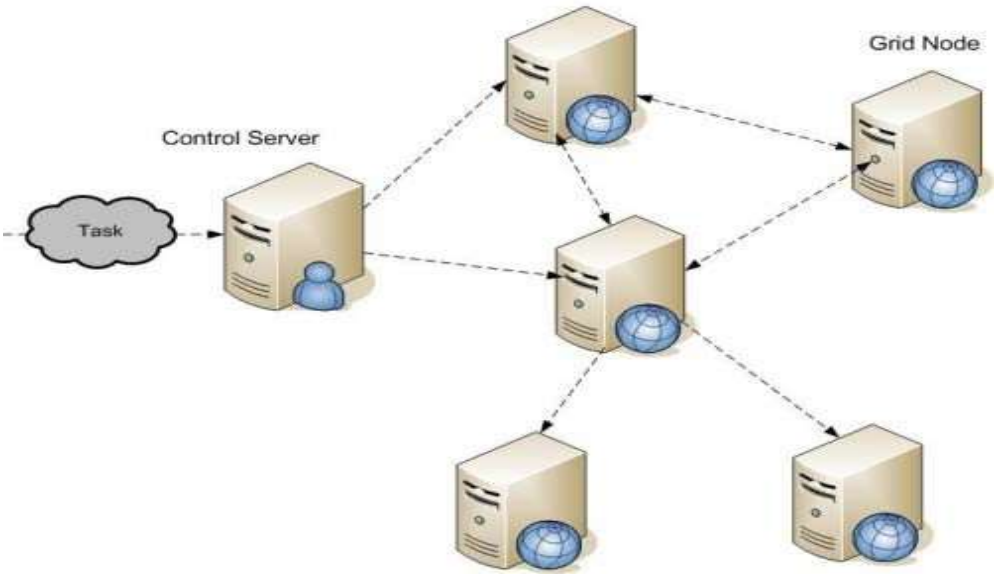
Cloud Computing," to put it simply, means "Internet Computing." The Internet is commonly visualized as clouds; hence the term "cloud computing" for computation done through the Internet.

With Cloud Computing users can access database resources via the Internet from anywhere, for as long as they need, without worrying about any maintenance or management of actual resources. Besides, databases in cloud are very dynamic and scalable**.**

What Is Cloud Computing?

Cloud computing provides the facility to access shared resources and common infrastructure, offering services on demand over the network to perform operations that meet changing business needs. The location of physical resources and devices being accessed are typically not known to the end user. It also provides facilities for users to develop, deploy and manage their applications 'on the cloud', which entails virtualization of resources that maintains and manages itself**.**

Grid Computing:



Cloud Computing

Some generic examples include:

- Amazon's Elastic Computing Cloud (EC2) offering computational services that enable people to use CPU cycles without buying more computers
- Storage services such as those provided by Amazon's Simple Storage Service (S3)
- Companies like Nirvanix allowing organizations to store data and documents without adding a single on-site server

Software As A Service (Saas):

SaaS is a model of software deployment where an application is hosted as a service provided to customers across the Internet. Saas is generally used to refer to business software rather than consumer software, which falls under Web 2.0. By removing the need to install and run an application on a user's own computer it is seen as a way for businesses to get the same benefits as commercial software with smaller cost outlay. SaaS can alleviate the burden of software maintenance and support but users relinquish control over software versions and requirements. Other terms that are used in this sphere include *Platform as a Service* (PaaS) and *Infrastructure as a Service* (IaaS).

Cloud Storage:

Over time many big Internet based companies (Amazon, Google…) have come out of space and the storage of information on remote servers or "clouds". Information is then temporarily cached on desktop computers, mobile phones or other internet-linked devices.

Amazon's Amazon Elastic Compute Cloud (EC2) and Simple Storage Solution (S3) are the current best known facilities**.**

Data Cloud:

Along with services the cloud will host data. There has been some discussion of this being a potentially useful notion possibly aligned with the Semantic Web, though it could result in data becoming undifferentiated.

Cloud Computing Architecture:

Cloud computing architecture, just like any other system, is categorized into two main sections: Front End and Back End. Front End can be end user or client or any application (i.e. web browser etc.) which is using cloud services. Back End is the network of servers with any computer and data storage system.

It is usually assumed that cloud contains infinite storage capacity for any software available in market. Cloud has different applications that are hosted on their own dedicated server farms.

Cloud has centralized server administration system. Centralized server administers the system, balances client supply, adjusts demands, monitors traffic and avoids congestion. This server follows protocols.

Cloud Architecture runs on a very important assumption, which is mostly true. The assumption is that the demand for resources is not always consistent from client to cloud. Because of this reason the servers of cloud are unable to run at their full capacity. To avoid this scenario, server virtualization technique is applied. In sever virtualization, all physical servers are virtualized and they run multiple servers with either same or different application. As one physical server acts as multiple physical servers, it curtails the need for more physical machines.

Types of Cloud Computing Environments:

Public Clouds:

This environment can be used by the general public. This includes individuals, corporations and other types of organizations. Typically, public clouds are administrated by third

parties or vendors over the Internet, and services are offered on pay-per-use basis. These are also called provider clouds. Business models like SaaS (Software-as-a- Service) and public clouds complement each other and enable companies to leverage shared IT.

Examples:

New York Times archive project which used 100 Amazon EC2 instances and

5.5TB of S3 storage to generate PDFs of

11 million articles for the paper's archives, at a small fraction of traditional costs

Public clouds are widely used in the development, deployment and management of enterprise applications, at affordable costs

Allows organizations to deliver highly scalable and reliable applications rapidly and at more affordable costs

Security is a significant concern in public clouds

Private clouds

This cloud computing environment resides within the boundaries of an organization and is used exclusively for the organization's benefits. These are also called internal clouds. They are built primarily by IT departments within enterprises who seek to optimize utilization of infrastructure resources within the enterprise by provisioning the infrastructure with applications using the concepts of grid and virtualization.

Advantages:

They improve average server utilization, allow usage of low-cost servers and hardware while providing higher efficiencies; thus reducing the costs that a greater number of servers would otherwise entail.

High levels of automation, reducing operations costs and administrative maintenance and whereabouts. This is also called as SaaS (Software-as-a- Service). Mostly free, very easy to use, feature- rich, easy to access and promises good consumer adoption.

Limitations:

User can only use the application and would not know the technology leveraged to develop the application; thereby user has little control over application development.

Conclusion:

After so many years, Cloud Computing today is the beginning of "network based computing" over Internet in force. It is the technology of the decade and is the enabling element of two totally new computing models, the Client-Cloud computing and the Terminal-Cloud computing. These new models would create whole generations of applications and business. Our prediction is that it is the beginning to the end of the dominance of desktop computing such as that with the Windows. It is also the beginning of a new Internet based service economy: the Internet centric, Web based, on demand, Cloud applications and computing economy.

USHA N.

II B.Sc. Computer Science

EMPOWERING GIRLS THROUGH EMOTIONAL SUPPORT

Navigating the journey from girlhood to womanhood can be challenging. The pressures of society, academic demands, and social dynamics often create a whirlwind of emotions that young girls must navigate. Providing emotional support is crucial to help them build resilience, self-esteem, and a sense of belonging. Here are key strategies to offer
meaningful emotional support for girls:

Active Listening and Empathy

One of the most valuable ways to support girls emotionally is to practice active listening. Encourage open communication and create a safe space where they can express their feelings without fear of judgment. Empathy, the ability to understand and share another person's feelings, goes hand-in-hand with listening. Show genuine interest in their experiences and validate their emotions.

Positive Reinforcement and Encouragement

Positive reinforcement can significantly impact a girl's self-esteem. Celebrate their achievements, no matter how small, and offer words of encouragement. By focusing on their strengths and acknowledging their efforts, you can help them develop a positive self- image and the confidence to face challenges.

Role Models and Mentorship

Having positive role models and mentors can inspire girls and provide them with a sense of direction. Encourage them to look up to individuals who exemplify qualities they admire. Mentorship can offer guidance, support, and the wisdom of experience, helping girls navigate difficult situations and make informed decisions.

Teaching Emotional Intelligence

Emotional intelligence (EI) is the ability to recognize, understand, and manage emotions. Teaching girls EI skills can empower them to handle their feelings constructively.

Encourage self-awareness, self-regulation, and social skills through activities that promote emotional learning, such as journaling, mindfulness, and group discussions.

Promoting Healthy Relationships

Healthy relationships are foundational to emotional well-being. Teach girls the importance of setting boundaries, respecting others, and recognizing unhealthy dynamics. Encourage them to surround themselves with supportive friends and mentors who uplift them and contribute positively to their lives.

Providing Resources and Support Networks

Access to resources and support networks is vital for girls' emotional health. Introduce them to counseling services, support groups, and online communities that focus on mental health and well-being. Knowing that help is available and that they are not alone can make a significant difference in their emotional resilience.

Encouraging Self-Care and Mindfulness

Self-care practices and mindfulness techniques can help girls manage stress and maintain emotional balance.

Encourage them to engage in activities that bring them joy, such as hobbies, sports, or creative pursuits. Teaching mindfulness, such as deep breathing exercises and meditation, can also help them stay grounded and present.

Conclusion

Supporting girls emotionally is an ongoing and evolving process. By fostering an environment of empathy, encouragement, and empowerment, we can help them build the resilience they need to face life's challenges with confidence. Through active listening, positive reinforcement, and providing resources, we can ensure that girls grow into strong, self-assured women who are equipped to navigate the complexities of life. Emotional support isn't just about being there; it's about empowering girls to believe in themselves and their potential.

Sherine Christina

II B.Sc. Computer Science

AI IN CYBERSECURITY

Introduction

AI becomes more integral to various industries, its role in cybersecurity is growing. AI helps enhance threat detection, response, and overall security, but it also brings new vulnerabilities.

Benefits of AI in Cyber Security

1. Automated Threat Detection: AI analyzes data in real-time to identify and respond to threats quickly.

2. Behavioral Analysis: AI monitors user behavior to detect anomalies and prevent insider threats.

3. Phishing Detection: AI can identify and block phishing attempts, protecting users from scams.

Challenges and Risks

1. Adversarial Attacks: Cybercriminals can manipulate AI models to produce incorrect results.

2. Data Privacy: AI's need for large data sets raises privacy concerns.

3. Bias: AI models can inherit biases from training data, leading to unfair outcomes.

Future Trends

1. AI-Enhanced Threat Intelligence: Improved threat intelligence with deeper insights.

2. AI-Driven Security Automation: Automation of routine tasks to focus on complex issues.

3. Collaborative AI: AI working alongside human analysts for more effective strategies.

Conclusion

AI significantly enhances cybersecurity but also introduces new challenges. By understanding and addressing these challenges, organizations can leverage AI to create a safer digital future.

Mohanapriya V.

II B.Sc. Computer Science

LIFE IN CODE

Life is like a line of code,
A path we write, a road we load.
Some days compile without a flaw,
While others halt—errors we saw.
Bugs appear, we troubleshoot,
Restart, retry, and then reboot.
Like endless loops, we push ahead,
Through trials faced and lessons read.
Algorithms help us find our way,
Sorting choices, day by day.

Like memory stored, we hold what's dear,

And clear the cache of doubt and fear.

Though life may crash or screens may freeze,

We debug problems, piece by piece.

For in this world of ones and twos,

The code we write is what we choose.

Saliha Tazeen S.I

II B.Sc. Computer Science

CYBERSECURITY-SECURING THE DIGITAL WORLD

Introduction

In today's digital era, cyber security is more important than ever. With the growing reliance on the internet, businesses and individuals face numerous cyber threats, including hacking, phishing, and malware attacks. Understanding cyber security is essential for protecting sensitive data and ensuring a safe online experience.

What is Cyber security?

Cyber security refers to the practice of protecting systems, networks, and data from cyber threats. It involves implementing security measures to prevent unauthorized access, data breaches, and cyber-attacks. Organizations invest in cyber security strategies to safeguard their assets and maintain privacy.

It includes practices such as:

Network security: Protecting networks from cyber-attacks.

Information security: Ensuring the confidentiality and integrity of data.

Application security: Securing software and applications from vulnerabilities.

Endpoint security: Protecting devices like computers, smartphones, and tablets.

Identity and access management: Ensuring that only authorized users can access systems and data.

Incident response: Identifying, managing, and recovering from cyber-attacks or breaches.

Types of Cyber Threats

Cyber threats come in various forms, including:

Malware:

Malicious software such as viruses, worms, and ransom ware can compromise devices by causing damage or taking control Phishing.

Phishing:

Phishing attacks involve sending fraudulent communications (usually emails) that appear to come from a trusted source. The goal is to trick the recipient into revealing sensitive information, such as usernames, passwords, or credit card details.

Brute Force Attacks:

In a brute force attack, an attacker systematically tries all possible password combinations until the correct one is found. This type of attack is often used to crack weak passwords or encryption keys.

Insider Threats:

Insider threats come from within an organization, where employees or other trusted individuals misuse their access to systems or data. This can include intentional sabotage or unintentional actions that compromise security.

Importance of Cyber security

Without proper cyber security measures, individuals and businesses risk losing sensitive information, financial losses, and reputational damage. Strong cyber security practices help prevent identity theft, secure personal data, and protect critical infrastructure. Governments also invest in cyber security to prevent cyber warfare and espionage.

Cyber-attacks can result in direct financial losses, such as in the case of fraud, ransom ware attacks, or theft of funds. For businesses, a data breach can lead to significant costs in terms of recovery, legal fees, fines, and loss of customer trust. Cyber security helps prevent these potentially disastrous financial impacts.

Governments rely on cyber security to protect critical infrastructure, such as power grids, communication networks, and transportation systems, from cyber-attacks that could cause widespread chaos or damage. National security depends on securing defense systems, intelligence, and communications against cyber espionage or cyber warfare.

Cyber security is essential to protect valuable digital assets, ensure privacy, maintain business operations, safeguard personal data, and prevent the far-reaching consequences of cyber-attacks. As we rely more on technology, cyber security becomes not just a precautionary measure but a necessity for securing our digital lives.

Best Practices for Cyber security

To stay safe online, follow these cyber security best practices:

Use strong passwords and change them regularly.

Enable two-factor authentication (2FA) to add an extra layer of security.

Keep software and systems up to date to patch vulnerabilities.

Avoid clicking on suspicious links or downloading unknown files.

Use antivirus software and a firewall to block cyber threats.

Educate yourself on social engineering tactics used by hackers.

Conclusion

Cyber security is a vital aspect of the digital world. As cyber threats evolve, individuals and organizations must take proactive steps to protect their data and systems. By following best practices and staying informed, we can create a safer online environment for everyone.

Aafrin Fathima F.
I B.Sc. Computer Science

NEURALINK: BRIDGING THE GAP BETWEEN HUMANS AND MACHINES

Abstract

Brain-machine interfaces hold promise for the restoration of sensory and motor function and the treatment of neurological disorders, but clinical brain-machine interfaces have not yet been widely adopted, in part, because modest channel counts have limited their potential.

Introduction

Brain-machine interfaces have the potential to help people with a wide range of clinical disorders. For example, researchers have demonstrated human neuroprosthetic control of computer cursors robotic limbs, and speech synthesizers by using no more than 256 electrodes.

Although these successes suggest that high-fidelity information transfer between brains and machines is possible, development of brain-machine interface has been critically limited by the inability to record from large numbers of neurons. Non-invasive approaches can record the average of millions of neurons through the skull, but this signal is distorted and nonspecific. Invasive electrodes placed on the surface of the cortex can record useful signals, but they are limited in that they average the activity of thousands of neurons and cannot record signals deep in the brain]. Most brain-machine interfaces have used invasive techniques, because the most precise readout of neural representations requires recording single action potentials from neurons in distributed, functionally linked ensembles.

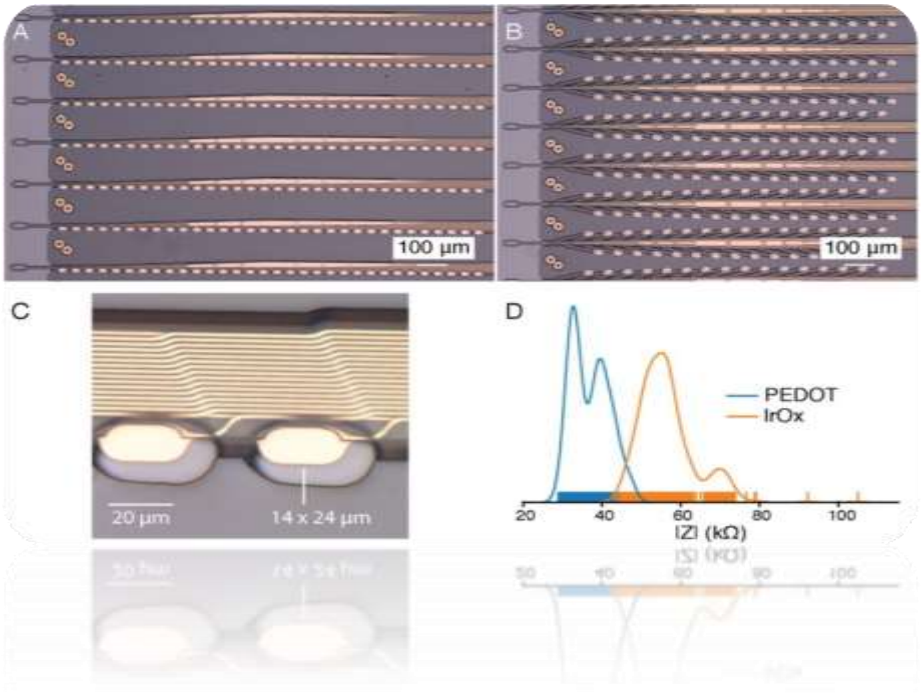
Key Technologies behind Neural ink

Microelectrodes are the gold-standard technology for recording action potentials, but there is no clinically translatable microelectrode technology for large-scale recordings. This would require a system with material properties that provide high biocompatibility, safety, and longevity. Moreover, this device would also need a practical surgical approach and high-density, low-power electronics to ultimately facilitate fully implanted wireless operation.

Most devices for long-term neural recording are arrays of electrodes made from rigid metals or semiconductors. Although rigid metal arrays facilitate penetrating the brain, the size, young modulus, and bending stiffness mismatches between stiff probes and brain tissue can drive immune responses that limit the function and longevity of these devices. Furthermore, the fixed geometry of these arrays constrains the populations of neurons that can be accessed, especially due to the presence of vasculature.

An alternative approach is to use thin, flexible multielectrode polymer probes. The smaller size and increased flexibility of these probes should offer greater biocompatibility. However, a drawback of this approach is that thin polymer probes are not stiff enough to directly insert into the brain; their insertion must be facilitated by stiffeners injection, or other approaches all of which are quite slow.

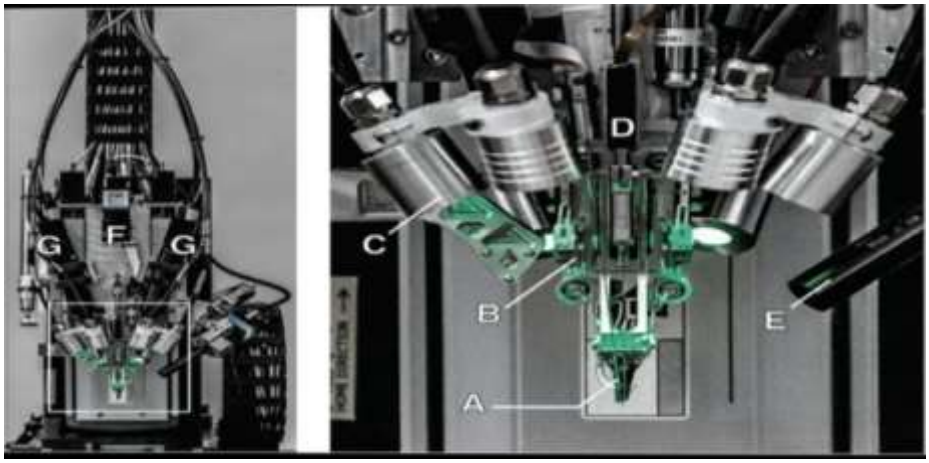
To satisfy the functional requirements for a high-bandwidth brain-machine interface, while taking advantage of the properties of thin-film devices, we developed a robotic approach, where large numbers of fine and flexible polymer probes are efficiently and independently inserted across multiple brain regions.



"Linear Edge" probes, with 32 electrode contacts spaced by 50 µm. (B) "Tree" probes with 32 electrode contacts spaced by 75 µm. (C) Increased magnification of individual electrodes for the thread design in panel A, emphasizing their small geometric surface area. (D) Distribution of electrode impedances (measured at 1 kHz) for two surface treatments: PEDOT (n=257) and IrOx (n=588). IrOx: iridium oxide; PEDOT: poly-ethylenedioxythiophene; PCB: printed circuit board.

Packaged Sensor Device. (A) Individual neural processing application-specific integrated circuit capable of processing 256 channels of data. This particular packaged device contains 12 of these chips for a total of 3072 channels. (B) Polymer threads on parylene-c substrate. (C) Titanium enclosure (lid removed). (D) Digital USB-C connector for power and data.

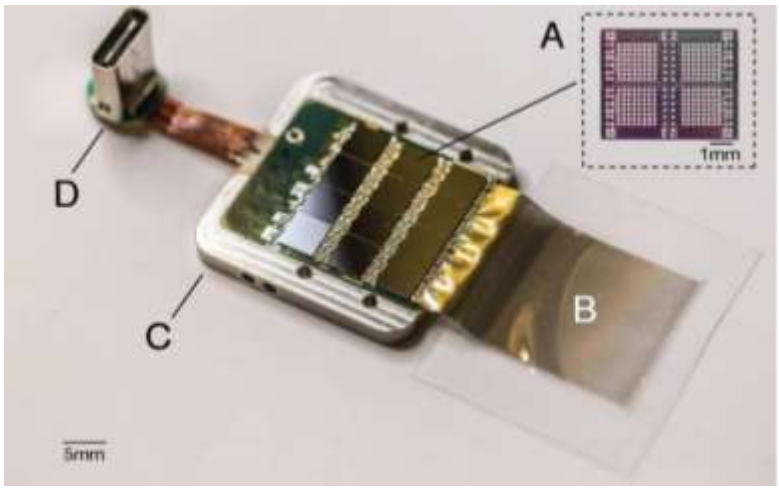
The Neural ink ASIC forms the core of a modular recording platform that allows for easy replacement of constitutive parts for research and development purposes.



In the systems discussed here, a number of ASICs are integrated into a standard PCB using flip-chip integration. Each system consists of a field-programmable gate array; real-time temperature, accelerometer, and magnetometer sensors; and a single USB-C connector for full-bandwidth data transfer. The systems are packaged in titanium cases that are coated with parylene-c, which serves as a moisture barrier to prevent fluid ingress and prolong functional lifetime.

Electrophysiology

We have implanted both Systems A and B in male Long-Evans rats, as described in the section Robot. All animal procedures were performed in accordance with the National Research Council's Guide for the Care and Use of Laboratory Animals and were approved by the neural ink Institutional Animal Care and Use Committee. Electrophysiological recordings were taken as the animals freely explored an arena equipped with a commutated cable that permitted unrestricted movement. System A can record 1344 of 1536 channels simultaneously; the exact channel configuration can be arbitrarily specified at the time of recording; System B can record from all 3072 channels simultaneously. Digitized broadband signals were processed in real time to identify action potentials (spikes) using an online detection algorithm**.**



Spike detection requirements for real-time brain-machine interface are different from most conventional neurophysiology requirements. While most electro physiologist's spike-sort data offline and spend significant effort to reject false-positive spike events, brain-machine interface events must be detected in real time and spike detection parameters must maximize decoding efficacy. Using our custom online spike-detection software, we found that a permissive filter that allows an estimated false-positive rate of approximately 0.2 Hz performs better than setting stringent thresholds that may reject real spikes (data not shown).

Discussion

We have described a brain-machine interface with a high-channel count and single-spike resolution. It is based on flexible polymer probes, a robotic insertion system, and custom low-power electronics. This is important for performance assessments and crucial for the development of signal processing and decoding algorithms. In contrast, the clinical devices that derive from this platform will be fully implantable, which requires hermetic packaging, and have on-board signal compression, reduced power consumption, wireless power transmission, and data telemetry through the skin without percutaneous leads.

Conclusion

Neural ink represents a ground-breaking convergence of neuroscience and computer science, pushing the boundaries of what it means to interact with technology. Its potential to restore lost functions, enhance human capabilities, and create seamless brain-computer communication is both inspiring and transformative. However, the journey is fraught with

technical challenges, ethical dilemmas, and societal implications that cannot be ignored. As neural ink continues to evolve, it raises profound questions about privacy, human augmentation, and the very essence of consciousness. Whether it becomes a tool for medical miracles or a step toward merging humans with machines, one thing is certain—neural ink is set to redefine the future of human-computer interaction and challenge our understanding of technology's role in our lives.

Keerthana Karunya Mangai S.

I B.Sc. Computer Science

ROBOTICS

World of Robotics: A Journey into the Future

Introduction to Robotics

Robotics is an interdisciplinary field that integrates various areas of engineering, computer science, and technology to design, build, and operate robots. A robot can be defined as a machine capable of carrying out a series of tasks automatically, often replacing human effort in various industries. The field has seen rapid growth over the past few decades and continues to evolve at an astonishing pace, impacting a wide array of sectors including manufacturing, healthcare, and space exploration.

Types of Robots

Robots can be categorized in several ways based on their design, capabilities, and applications:

1. **Industrial Robots**: These robots are widely used in manufacturing processes, where they are programmed to perform repetitive tasks such as assembling parts, welding, and painting. They are designed to improve efficiency, precision, and safety in factories.
2. **Service Robots**: These robots provide services to humans in various environments, including healthcare, retail, and customer service. Examples include robot nurses that assist with patient care or robots that clean homes and public spaces.
3. **Autonomous Mobile Robots (AMRs)**: These robots are designed to move through their environment independently. They are commonly used in warehouses for material handling or in autonomous vehicles, where they navigate without human intervention.
4. **Humanoid Robots**: Humanoid robots are designed to resemble the human body in shape and function. These robots are often used for research purposes and as interactive companions in social settings.
5. **Medical Robots**: These robots assist in surgeries, provide rehabilitation support, or perform diagnostic tasks. Robotic surgery, for instance, allows for more precise and minimally invasive procedures, leading to quicker recovery times for patients.

Applications of Robotics

Robots have found applications in numerous industries, transforming the way work is done. Some key applications include:

1. **Manufacturing and Automation**: Robots have revolutionized manufacturing by automating repetitive and dangerous tasks, leading to greater productivity, cost savings, and enhanced safety in production lines. In the automotive industry, robotic arms are used extensively in assembly lines to improve efficiency and reduce human error.
2. **Healthcare**: Robotic surgery systems like the da Vinci Surgical System allow surgeons to perform highly precise procedures through small incisions, minimizing patient recovery time. Robots are also used in physical therapy and assistive devices for people with disabilities.

3. **Space Exploration**: Robots are crucial for space missions, where they are used for tasks ranging from exploration to maintenance of spacecraft. The Mars rovers, for instance, gather data from the Martian surface and perform experiments in harsh environments where humans cannot easily go.
4. **Agriculture**: Agricultural robots are used to plant, harvest, and monitor crops, optimizing the food production process. Autonomous drones, for instance, are used to monitor crop health and apply fertilizers or pesticides precisely where needed.
5. **Military and Defense**: Robotics is also being explored in defense, with drones and unmanned vehicles used for surveillance, reconnaissance, and even combat situations. Robots can be sent into dangerous situations, reducing the risk to human lives.

Challenges and Ethical Considerations

While robotics holds great promise, it also comes with challenges and ethical concerns that need to be addressed. Some of the major issues include:

- **Job Displacement**: Automation can replace jobs in certain industries, particularly in manufacturing. This leads to concerns about unemployment and the need for retraining workers for new roles in the tech-driven economy.
- **Privacy and Security**: Robots, especially autonomous ones, collect vast amounts of data. There are concerns regarding privacy violations and the potential for data breaches or misuse of information.
- **Ethical Dilemmas**: The rise of autonomous robots, particularly in defense and military applications, has led to debates about the ethical implications of using robots in life-and-death situations. How much control should humans retain over these machines, and who is responsible for their actions?
- **Safety**: Ensuring that robots can operate safely in environments with humans is critical. As robots become more integrated into daily life, preventing accidents or malfunctions is a top priority.

The Future of Robotics

The future of robotics holds immense potential. Technological advancements in artificial intelligence (AI), machine learning, and sensor technologies are pushing the boundaries of what robots can do. Some trends that are expected to shape the future of robotics include:

1. **Collaborative Robots (Cobots)**: Cobots are robots designed to work alongside humans in shared spaces. Unlike traditional industrial robots, which operate in isolated environments, cobots are designed to assist humans without posing risks, improving productivity in various industries.
2. **AI and Machine Learning Integration**: AI-powered robots can learn from their environment and make decisions on their own. This integration will enable robots to perform more complex tasks, adapt to new situations, and become more autonomous.
3. **Robotics in Everyday Life**: With advancements in affordability and technology, we can expect to see more robots in our daily lives. From personal assistants to home cleaning robots, these machines will increasingly become part of our homes and work environments.
4. **Robotics in Elderly Care**: With the global population aging, robots are expected to play a significant role in elderly care, offering assistance with daily activities, medication management, and providing companionship.

Conclusion

Robotics has already transformed industries across the world, and its influence will only continue to grow. The integration of robotics with AI and other cutting-edge technologies will open new possibilities for automation, healthcare, space exploration, and more. As we move forward, the key challenges of ethics, safety, and job displacement must be addressed to ensure a responsible and beneficial future for robotics. The potential for robotics to improve lives and redefine industries is enormous, and the future looks incredibly exciting.

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WHY WE SHOULD CHOOSE DATA SCIENCE AS A CAREER OPTION

What is Data Science?

Data science is the art and science of turning data into actionable insights. It involves collecting, cleaning, analyzing, and interpreting large datasets to solve complex problems and make informed decisions. Data scientists use a combination of tools, algorithms, and machine learning models to uncover patterns, predict trends, and drive innovation.

Why Data Science?

In today's digital age, data is everywhere. From social media interactions to online shopping habits, every click, swipe, and transaction generates valuable information. But raw data alone is meaningless without the tools and expertise to analyze it. This is where data science comes in a multidisciplinary field that combines statistics, programming, and domain expertise to extract meaningful insights from data.

Key Components of Data Science

Data Collection

Data is gathered from various sources, such as databases, APIs, sensors, or web scraping.

Example: A retail company collects customer purchase data to analyze buying behavior

Data Cleaning

Raw data is often messy and incomplete. Data scientists clean and preprocess it to ensure accuracy.

Example: Removing duplicate entries or filling in missing values

Data Analysis

Using statistical methods and visualization tools, data scientists explore the data to identify trends and correlations.

Example: Creating charts to show sales trends over time.

Machine Learning

Advanced algorithms are used to build predictive models and automate decision-making.

Example: Predicting customer churn based on past behaviour.

Data Visualization

Insights are presented in an easy-to-understand format using tools like Tableau, Power BI, or Python libraries (e.g., Matplotlib, Seaborn).

Example: A dashboard showing real-time sales performance

Applications of Data Science

Data science is transforming industries across the globe. Here are a few examples:

Healthcare

Predicting disease outbreaks, personalizing treatment plans, and improving patient care.

Finance

Detecting fraudulent transactions, optimizing investment portfolios, and assessing credit risk.

E-commerce

Recommending products, optimizing pricing strategies, and improving customer experience.

Transportation

Optimizing routes for delivery services, predicting traffic patterns, and enabling autonomous vehicles.

Social Media

Analysing user behaviour, targeting ads, and detecting fake news.

Challenges in Data Science

While data science offers immense potential, it also comes with challenges:

Data Privacy

Ensuring the ethical use of sensitive data.

Data Quality

Dealing with incomplete or inaccurate data.

Complexity

Building and maintaining sophisticated models requires expertise.

Interpretability

Making sure insights are understandable and actionable for stakeholders.

The Future of Data Science

The future of data science is bright. With advancements in artificial intelligence, big data technologies, and cloud computing, the field is evolving rapidly. Here are some trends to watch: Automated Machine Learning (Auto ML): Making machine learning accessible to non-experts. Explainable AI: Ensuring transparency in AI-driven decisions. Edge Computing: Processing data closer to the source for faster insights. Ethical AI: Addressing bias and ensuring fairness in algorithms.

Conclusion

Data science is more than just a buzzword—it's a powerful tool that is reshaping industries and driving innovation. By harnessing the power of data, organizations can make smarter decisions, improve efficiency, and create better experiences for their customers. Whether you're a business leader, a student, or a tech enthusiast, understanding data science is key to thriving in the data- driven world of tomorrow.

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GALLERY

Resource Talk on "Uncovering Future on AI"

Industrial Visit – Willy's Enterprises

State Level Symposium "Tech Frenzy"

Extension Activity - Visit to Priyadharshini Special School.

International Conference on "Innovative Trends in Information and Communication Technology"

Industrial Visit – Tech Mahindra Chennai

Workshop on “Generative AI"

Crossword Puzzle

Industrial Visit - Process Drive India Pvt Ltd

Muthamizh Vizha Dance Competition

Resume Building Competition

MIME Competition

DMK Speech Competition