



Bapuji Educational Association (Regd.)

Bapuji Institute of Engineering and Technology

ಬಾಪುಜಿ ಇಂಜಿನಿಯರಿಂಗ್ ಮತ್ತು ತಾಂತ್ರಿಕ ಮಹಾವಿದ್ಯಾಲಯ, ದಾವಣಗೆರೆ-577004

An Autonomous Institute Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka.
Approved by AICTE, New Delhi | Accredited by NAAC with 'A' grade and NBA (UG Programmes)
Recognized by UGC, New Delhi under 2(F) and 12(B)

Department of Computer Science & Engineering

UniCS



The Tech Messenger

News Letter - Volume of the Year
January 2024 - June 2024

"Intelligence is the ability to adapt to change."

- Stephen Hawking

Vision of the Institute

"To be a centre of excellence recognized nationally and internationally, in distinctive areas of engineering education and research, based on a culture of innovation and invention"

Mission of the Institute

"BIET contributes to the growth and development of its students by imparting a broad based engineering education and empowering them to be successful in their chosen field by inculcating in them positive approach, leadership qualities and ethical values "

Vision of the Department

“To be a center-of-excellence by imbibing state-of-the-art technology in the field of Computer Science and Engineering, thereby enabling students to excel professionally and be ethical”.

Mission of the Department

M1: Adapting best teaching and learning techniques that cultivates Questioning and Reasoning culture among the students.

M2: Creating collaborative learning environment that ignites the critical thinking in students and leading to the innovation.

M3: Establishing Industry Institute relationship to bridge the skill gap and make them industry ready and relevant.

M4: Mentoring students to be socially responsible by inculcating ethical and moral values.

Program Educational Objectives (PEOs)

PEO1 - To apply skills acquired in the discipline of Computer Science and Engineering for solving societal and industrial problems with apt technology intervention.

PEO2 - To continue their career in industry/academia or to pursue higher studies and research.

PEO3 - To become successful entrepreneurs, innovators to design and develop software products and services that meets the societal, technical and business challenges.

PEO4 - To work in the diversified environment by acquiring leadership qualities with effective communication skills accompanied by professional and ethical values.

Program Specific Outcomes (PSOs)

PSO1 - Analyze and develop solutions for problems that are complex in nature by applying the knowledge acquired from the core subjects of this program.

PSO2 - Ability to develop Secure, Scalable, Resilient and distributed applications for industry and societal requirements.

PSO3 - Ability to learn and apply the concepts and construct of emerging technologies like Artificial Intelligence, Machine learning, Deep learning, Big Data Analytics, IoT, Cloud Computing, etc for any real time problems.

From the Editorial Desk...

Greetings!

We are thrilled to bring you the latest edition of the Department of CSE Newsletter. This publication is a celebration of the talent, hard work, and accomplishments of our students and faculty, showcasing their dedication to excellence both inside and outside the classroom.

The newsletter provides a platform to reflect on the various initiatives and events that have enriched our department over the past year. From faculty development programs to student-driven activities, every achievement highlights the enthusiasm and commitment that defines our community. It is our aim to share these milestones with you and inspire others to pursue similar excellence in their endeavors.

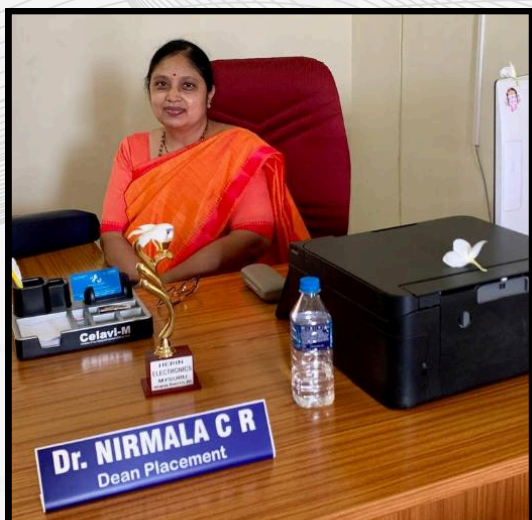
This edition serves not only as a chronicle of our department's journey but also as a testament to the collaborative spirit that drives us forward. We are proud to shine a spotlight on the diverse talents and efforts of our students and staff, whose contributions have set new benchmarks for academic and extracurricular achievements.

We warmly invite you to share your valuable feedback, comments, and suggestions to help us improve and elevate the quality of this newsletter in the future. Your insights are essential to making this publication a true reflection of our collective aspirations and growth.

Thank you for taking the time to engage with this newsletter. We hope it motivates you to strive for greater accomplishments and be a part of the exciting journey that lies ahead.

Sd/-

The Editorial



Message from the HOD's Desk

It gives me great pleasure to present the 2024 edition of the Department of Computer Science & Engineering newsletter, “Tech Messenger.” This publication reflects the innovation, achievements, and collaborative spirit that define our department.

Through our “Strong Alumni and Industry Connect” initiative, we strive to make our students industry-ready through hackathons, coding challenges, real-time projects, and awareness programs. Faculty members are equally encouraged to pursue impactful research in a supportive environment. Our forum, “UniCS,” continues to nurture and showcase the talents of our students.

This year, we organized a range of events, including technical talks, alumni sessions, workshops, and FDPs, in collaboration with industry experts and alumni. These activities bridge the gap between academics and industry while fostering professional growth.

I congratulate the editorial team for their exceptional effort in compiling this newsletter, highlighting our department’s journey from January to June 2024. Wishing them continued success in future editions.

Dr. Nirmala C.R.
Dean of Placements
Professor & Head
Department of Computer Science & Engineering

NEWS LETTER COMMITTEE

Advisory Board:

- Prof. Y. Vrushabhendarappa – Director, BIET
- Dr. Aravind H. B. – Principal, BIET
- Dr. Nirmala C. R. – Dean of Placements
Professor and Head,
Department of CSE

Chief Editors:

- Prof. Waseem Khan, Assistant Professor
- Prof. Gangamma Hediylad, Assistant Professor

Associate Editors:

- Dhyaan J N
- Dhruva N R

FDP/WORKSHOP ATTENDED

- Prof. Rahima B, Prof. Muthahir participated in one week workshop “**Mastering IoT: Hands-on Training for Sensors Integration, Devices, and Cloud Services**” organized by EC dept, BIET, Davanagere.
- Dr. Santosh K C and Dr. Abdul Razak M S attended **Amazon AI Conclave** on 11 Jan 2024 at Bengaluru.
- Dr. Gururaj T, Prof. Anu C S, Prof. Rahima B, Prof. Vaishnavi A I attended 3 days’ Workshop on **Research Methodology and IPR** from 13/01/2024 to 16/01/2024 at BIET Davangere.
- Prof. Vishwanath V k attended 5 days FDP on “**Unlocking Industry Insights in Data Science**” organized by MITS, Madanapalle, Andhra Pradesh from 12/2/24 to 16/2/24.
- Dr. Naresh Patel K M attended 10 days FDP on “**Essentials of Cyber Security in Blockchain Technologies**” organized by Dept. of ISE, Vidyavardhaka College of Engineering, Bangalore from 19-02-2024 to 29-02-2024.
- Prof. Muthahir participated 3 day workshop on “**Celonis Process Mining using Execution Management System**” organized by ICT Academy 03/04/24 to 05/04/24.
- Dr. Gangadharappa S attended 4 days FDP on “**Product Development Using MERN**” organized by Dept of AIML, CMRIT, Bengaluru from 26/04/2024 to 29/04/2024

EVENTS ORGANIZED in Department

- CS&E department conducted a Technical Talk on “**From Toolkit to Transformation: NLP Applications Explored with Natural language Toolkit**”, for 5th semester CSE students on 05th January, 2024, Dr. B M Sagar, HOD, IS&E, RVCE, Bengaluru was the resource person for the talk.



Glimpses of event

- Parents-Teacher interaction for 5th semester students was scheduled on 05/02/2024.

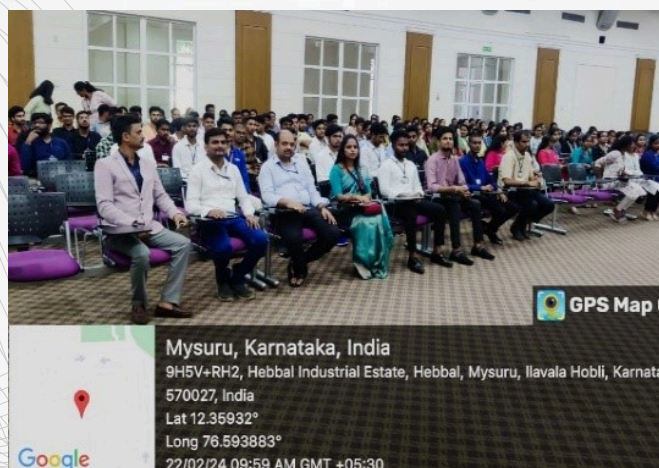


Glimpses of event

- **The External Academic Audit** for the academic year 2022–2023 was conducted on 09–02–2024 in accordance with IQAC directives. The members of the external audit team included Dr. Sankhya Nagesh Nayak, Associate Professor at JNNCE, Shivamogga and Dr. Manoj Kumar M. V, Associate Professor at NMIT, Bengaluru.



- Dept. of CS&E organized **industrial visit to the Infosys Mysore campus** on February 22, 2024 for 5th semester students.



Glimpses of event

- **Internship Presentation and evaluation** was held for the 8th Sem students from February 26th to 2nd March, 2024. The external evaluator - Mr. Santosh Navale, CPO-Analytics, Pattern Effects, EX-Huawei and faculty guides have evaluated the Internship activities.



Glimpses of event

- On June 4th, 2024, Mr. Prashanth A C, [Alumni] Entrepreneur-ICSbit OT cyber security, has delivered a **technical talk** for the faculties of CS&E and ECE on "**Operational Technology Cyber Security**" in Defence Sector.
- On July 3, 2024, TCS and the Board for IT Education Standards (BITES) administered the TCS **Tech-Bytes Quiz** to multidisciplinary students.



Glimpses of event

- **Progyan 6.0: Open House Project Exhibition** was held from April 15th and April 16th, 2024 as a course requirement for 8th semester. Dr. Anitha G, Associate Professor of IS&E, and Dr. Geetha M, Associate Professor of MCA, BIET, Davangere, have been invited as the external evaluators.



Glimpses of event

- CS&E Dept. organized a **Forum valedictory and Farewell** to outgoing students was held on May 14, 2024.



Glimpses of event

- 8th semester students displayed their ideas during the **NIRMANA 4.0 inhouse exhibition**, which was set for May 25th, 2024 and project entitled “**Multi Language Voice Control IoT Home Automation**” awarded as Best Project of the Department, under the guidance of Prof. Radhika Patil and Prof. Kaveri C.



Glimpses of event

- A great feather to CS&E department, **Davana 24 Rolling Shield**, won by CS&E department on 1st June, 2024.



Glimpse of event

PROJECTS SANCTIONED BY KSCST/ Or any other notable student projects

- Student project titled **“Safety Gadget: An IT Based Security System”** guided by Dr. Naveen Kumar K R and Prof. Arjun H was approved and funded by KSCST, 46th Series of Student Project Programme.
- Student project titled **“IoT Based Animal Tracking System”** guided by Prof. Vishwanath V K and Prof.
- Shryavani K was approved and funded by KSCST, 46th Series of **Student Project Programme**.
- Student project titled **“Detection of Cyberbullying on Social Media Platforms”** guided by Dr. Gururaj T and Prof. Vaishnavi Ajay Inamdar was approved and funded by KSCST, 46th Series of **Student Project Programme**.
- Student project titled **“A Real Time Hand Gesture Recognition with human computer interaction System”** guided by Dr. Santosh K C and Prof. Gangamma Hediylad was selected for funding under Institute sponsored project.
- Student project titled **“Traffic violation proctoring system: Helmet and triple riding detection”** guided by Prof. Gangadharappa S and Prof. Jagadish A N was selected for funding under Institute sponsored project

STUDENTS ACTIVITIES/Programs organized

- In view of Social Connect and Responsibility, CS&E department conducted an activity **"FOOD WALK"** with theme: Exploring different types of food items in different districts of Karnataka, for 3rd semester students on 6th January, 2024.

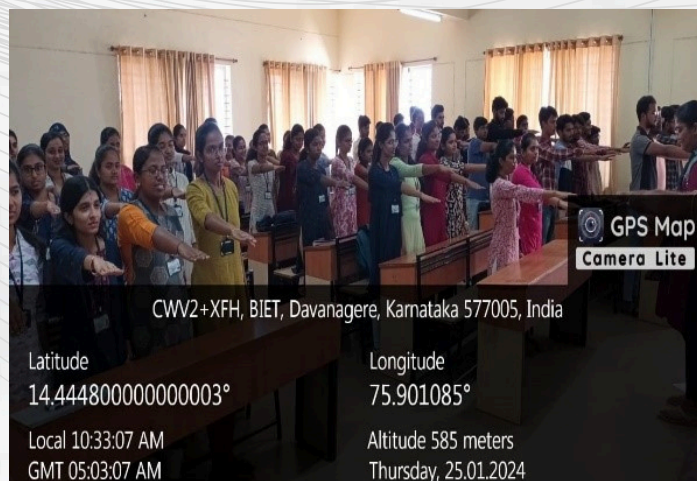
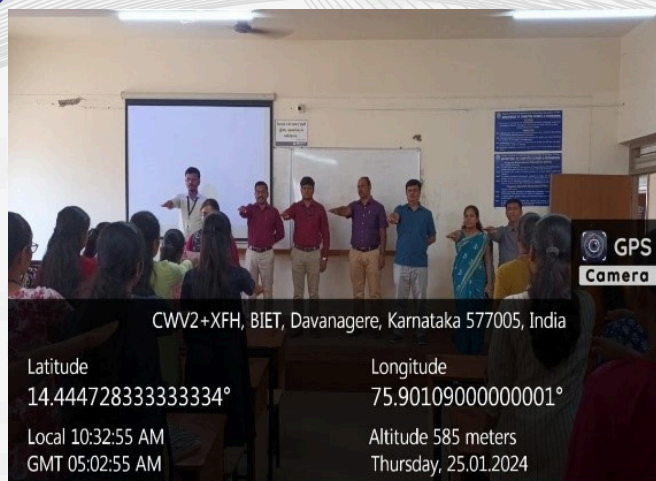


Glimpses of event

- In view of Social Connect and Responsibility **"Demonstration of Organic Farming and Waste Management"** activity was conducted for 3 semester CS&E students on 20/01/2024 at Taralabalu Krishi Vigyan Kendra, Davanagere.



- In view of NSS, CS&E faculties and students taken oath on account of “National Voting Day” on 25/01/2024.



National Voting Day

- In view of Social Connect and Responsibility "Plant Adoption" activity is conducted for 3rd semester CS&E students on 02/02/2024.



Plant Adoption

- **Java certification course** by Infosys Springboard for the 5th semester students was scheduled from 29/01/2024 to 01/02/2024.



- 6th semester students participated in a **"Talent Battle" placement training** by the Training and Placement department from June 13th to June 22nd, 2024



- TCS-HR team conducted a **Pre-Placement Talk** for 7th semester CSE students on 04th January, 2024, in association with Training and Placement.



Pre-Placement Talk

PAPER PRESENTED /PUBLISHED by faculty

- Dr. Nirmala C R and Prof. Anu C S published a paper on **“A review on Estimation of Crop Yield using Different Machine Learning approaches in precision agriculture”** Proceedings of YMER, Volume 23, Issue 04
- Prof. Gangamma H published a paper **“A comprehensive survey exploring the application of machine learning algorithms in the detection of land degradation”** Proceeding of Journal of Degraded and Mining Lands Management.
- Dr. Naseer R, published a paper **“Eco Friendly Waste Solution: A Path to Responsible Resource Management”**, Proceeding of Seybold Report Journal, DOI:10.5110/77.1404. Vol 19, Issue 4, April 2024.
- Dr. Naseer R, published a paper **“AI based Gait Recognition for Biometric Surveillance”**, Proceeding of Journal of emerging technologies and Creative research, ISSN:2349-5162, <http://doi.one/10.1729/Journal.38765>
- Dr. Gururaj T, published a paper **“Safeguarding Digital Spaces: Employing NLP & Machine Learning To Combat Intimidator On Social Platforms”**, Proceeding of Technische Sicherheit, ISSN NO: 1434-9728, Volume 23, Issue 12, December 2023, PAGE NO: 253-267, DOI:22.8342.TSJ.2023.V23.12.01213. Scopus-Ranked Q4 in SJR
- Dr. Naveen H M, published a paper **“An application of FCM and CNN for Efficient Lung Segmentation”**, Proceedings of SN Computer Science (Q2 Indexed, Springer Nature Journal), ISSN No:2661-8907
- Dr. Naveen H M, published a paper **“Computer Aided Detection of Lung Nodules using Swarm Intelligence”**, Proceedings of SN Computer Science (Q2 Indexed, Springer Nature Journal), ISSN No:2661-8907
- Dr. Naresh Patel K M published a paper **“Parsing Unstructured Healthcare Data using Regular Expressions”** Proceedings of International Research Journal on Advanced Engineering Hub.

- Prof. Chandrashekar M V published a paper “**Video based real time on street parking occupancy detection system**” Proceedings of International journal of Advances in Engineering and Management (IJAEM) Volume 6, Issue 4, pp: 661-666 ISSN: 2395-5252
- Prof. Chandrashekar M V and Dr Pradeep N published a paper “**Ensemble Machine Learning Techniques for Analysis and Classification of Sleep Disorders – A Review**”, J. Innovation Sciences and Sustainable Technologies, 3(3) (2023),183-196.
- Dr. Gangadharappa S published a paper “**Human Brain Tumour Detection and Segmentation for MR Image**” Journal of Engineering, Design and Technology,doi.org/10.18280/ria.370118.
- Prof. Rahima B published a paper “**Cyber Security and Compliance Management through a Single Integrated Platform**” IJRASET, Volume 12, Issue 1, January 2024
- Prof. Madhu N Hiremath published a paper “**Information Technology Security and Privacy Protection in Vehicular Networks (VANETs)**” IJRASET, Volume 12 Issue II February 2024. Paper ID: IJRASET58568

PLACEMENT DETAILS

Sl. No	Name of the Employer	No.of students placed
1	SLK software	08
2	VIBS Infosol Private Limited	06
3	GIGSKY	03
4	Inube	07
5	Destination Technology	05
6	Accenture	13
7	ZSCALER	02
8	Talent Serve	25
9	Kasmo Technology	04
10	TCS-Digital	04
11	TCS-Ninja	14

12	Pentagon Space Private Limited	08
13	Mu Sigma	02
14	Sasken Technologies Ltd	01
15	ICSBIT LABS	02
16	Palle Technologies	12
17	Deloitte	01
18	Echo Brains	02
19	TCS Digital /Prime	22/2
20	Magic Pixel	04
21	RAS Infotech [Dubai]	01
	Total Number of students placed	102
	No. Students with Multiple offers	28

UNIVERSITY WORK carried by Faculty

- Dr. Nirmala C R has been nominated as **BOE Chairman** by VTU for the academic year 2023-2024.
- Prof. Raghu B.R, Dr. Naresh Patel K M, Dr. Naveen H M, Dr. Santosh K C, Dr. Gangadharappa S appointed as **valuator for UG answer scripts and examiner for UG practical examination.**
- Prof. Waseem Khan, Prof. A N Jagadish, Prof. Preethi B, Prof. Gangamma Hediylad, Prof. Anu C S appointed as **examiner for UG practical examination and UG answer scripts**

Ph.D. Awarded

- Prof. Gangadharappa S awarded Ph.D. for the thesis titled “**Development of Pattern Recognition System for analysis and Grading of Brain Tumour**” under the guidance of Dr. Naveena C on March 07, 2024.
- Prof. Naveen H M awarded Ph.D. for the thesis titled “**Analysis of Lung Cancer using Machine Learning Methods**” under the guidance of Dr. Naveena C on March 07, 2024.

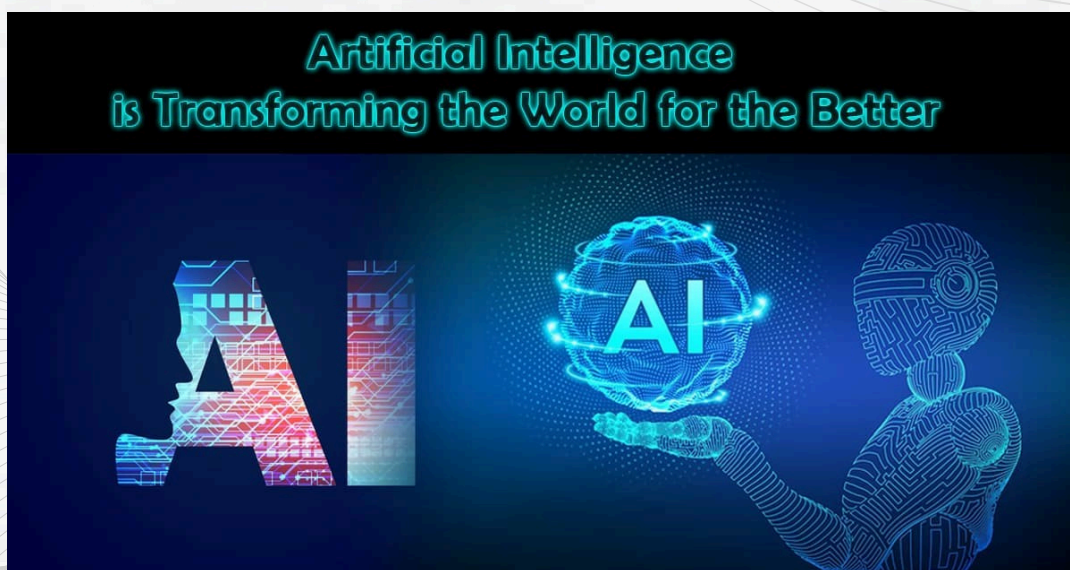
Faculty Corner

Gangamma Hediylad
Assistant Professor
CS & E Dept.



How artificial intelligence is transforming the world

Artificial intelligence (AI) is a wide-ranging tool that enables people to rethink how we integrate information, analyze data, and use the resulting insights to improve decision making—and already it is transforming every walk of life. In this report, Darrell West and John Allen discuss AI's application across a variety of sectors, address issues in its development, and offer recommendations for getting the most out of AI while still protecting important human values.



Most people are not very familiar with the concept of artificial intelligence (AI). As an illustration, when 1,500 senior business leaders in the United States in 2017 were asked about AI, only 17 percent said they were familiar with it. A number of them were not sure what it was or how it would affect their particular companies. They understood there was considerable potential for altering business processes, but were not clear how AI could be deployed within their own organizations.

Despite its widespread lack of familiarity, AI is a technology that is transforming every walk of life. It is a wide-ranging tool that enables people to rethink how we integrate information, analyze data, and use the resulting insights to improve decision making. Our hope through this comprehensive overview is to explain AI to an audience of policymakers, opinion leaders, and interested observers, and demonstrate how AI already is altering the world and raising important questions for society, the economy, and governance.

Artificial Intelligence is being used in manufacturing, healthcare, agriculture, and disaster management, just to name a few prominent industries. For manufacturers, AI can be a game-changer. AI can be used to automate complex tasks in manufacturing and help identify previously unknown patterns in the processes and workflows, thereby reducing costs and saving time.

The present healthcare system has many flaws and still, the healthcare system cannot tackle many of these challenges. The use of AI in healthcare can solve a number of these challenges and equip healthcare professionals to better understand the disease patterns and the needs of the patients. It can significantly improve diagnosis, treatment time, and prevention of a number of diseases.

With depleting groundwater levels and increased demand for natural resources, farmers face newer challenges every day. In the field of agriculture, AI can improve the lives of the farmers by giving them relevant information about the quality of the soil, weather conditions, and pests. This will help improve the harvest quality and increase the farm yield. Governments of a number of countries are also using AI to build smart cities for better governance, crime prevention, environmental planning, traffic management, and resource allocation. Artificial Intelligence cannot be ignored and a better understanding of the applications of AI will help us harness it better and counter the effects of climate change, global warming, and environmental pollution.

To summarize, the world is on the cusp of revolutionizing many sectors through artificial intelligence and data analytics. There already are significant deployments in finance, national security, health care, criminal justice, transportation, and smart cities that have altered decision making, business models, risk mitigation, and system performance. These developments are generating substantial economic and social benefits.

Yet the manner in which AI systems unfold has major implications for society as a whole. It matters how policy issues are addressed, ethical conflicts are reconciled, legal realities are resolved, and how much transparency is required in AI and data analytic solutions. Human choices about software development affect the way in which decisions are made and the manner in which they are integrated into organizational routines. Exactly how these processes are executed need to be better understood because they will have substantial impact on the general public soon, and for the foreseeable future. AI may well be a revolution in human affairs, and become the single most influential human innovation in history.

Student Corner

Dhyaan J N

4BD23CS053

3rd Semester



Exploring Generative AI: Shaping the Future of Creativity and Innovation

Generative AI is revolutionizing industries and transforming how we create and solve problems. From art and music to healthcare, this technology is unlocking new possibilities and changing the way we work. Here's a closer look at what generative AI is, how it works, and its real-world impact.

Generative AI is a type of artificial intelligence that creates new content—such as text, images, and music—based on patterns it learns from existing data. Unlike traditional AI, which analyzes data, generative AI mimics human creativity to produce original outputs. Examples include GPT-4 (text), DALL·E (images), and WaveNet (audio), all capable of creating realistic content.

Generative AI relies on machine learning techniques like Generative Adversarial Networks (GANs) and Transformers: GANs consist of two networks: one generates content, and the other evaluates it, improving over time through competition. Transformers process data sequences and are particularly good at generating coherent text or creative content, making them ideal for tasks like text generation and music creation.

Generative AI is already having a big impact across several fields:

- **Content Creation:** AI tools like GPT-4 generate articles, social media posts, and creative pieces. DALL·E allows designers to create unique images from text prompts, making content creation more accessible.
- **Healthcare:** AI is helping discover new drugs and generate medical images for better diagnostics.
- **Entertainment:** In music, film, and gaming, AI is driving creativity by generating original music, scripts, and even characters.
- **Design and Fashion:** AI helps designers create new product designs or fashion prototypes, allowing for faster innovation.
- **Education:** Generative AI personalizes learning by creating custom study materials and quizzes tailored to individual students.

Ethical Considerations and Challenges

While generative AI offers great potential, it also raises concerns:

- **Bias:** AI can perpetuate biases found in training data, affecting outputs.
- **Deepfakes:** AI's ability to create realistic fake content raises issues of misinformation.
- **Ownership:** Questions around copyright and authorship of AI-generated content are emerging.

Generative AI is transforming creativity, innovation, and problem-solving across multiple industries. While it presents exciting opportunities, it also brings challenges that require careful consideration. As we continue to explore its potential, generative AI will shape the future of how we create and interact with the world around us.

Literary Works

ಪ್ರಕೃತಿಯ ಸವಿನೆನೆ

ಹಸಿರು ಹೊಲದಲಿ ಮುಗ್ಧ ಸೌಂದರ್ಯ,
ಮನೆ ಕೊಡುವುದು ಪ್ರಕೃತಿಯ ಸಹಜಾಧ್ಯ.

ಗಾಳಿಯಲಿ ಚುಮುಚುಮು ನಗೆ,
ಮುಗಿಯದ ಹಾಡಿಗೆ ಪಟವಾಗಿ ಗೆಜ್ಜೆ.

ಅರುಣೋದಯದ ಕೆಂಪು ಹೊಳೆ,
ಹಸಿರು ಮರಗಳ ಹೊಲಿಯಲ್ಲಿ ಮೋಹಕ ಕಳೆ.

ಹಕ್ಕಿಯ ಕೂಗಿನ ಸಿಹಿಯ ತುಡಿಯಲಿ,
ಜೀವನವೇಕೆ ಮುಗಿಯದ ಪದ್ಯವನು ಹಾಡಲಿ.

ಮಳೆತೊ ಬಾರಿದ ಹಿತ ಚಿಮುಕು,
ಪರ್ವತ ತುದಿಗಳಲಿ ಮೈಮುಟ್ಟುವ ಹಸಿವು.

ಜಲಪಾತದ ತಾಳದ ಚಮತ್ಕಾರ,
ಪ್ರಕೃತಿಯ ಪ್ರೀತಿಗೆ ಬಣ್ಣಗಳ ಮಾರಕದಾರ.

ನಮಗೆ ಇದು ಕೊಟ್ಟ ನೆಮ್ಮದಿ ನಿತ್ಯ,
ಪ್ರಕೃತಿಯ ಪಾಲನೆ ನಮ್ಮ ಕರ್ತವ್ಯ!



Dhruva N R
4BD23CS052
3rd Semester

A Journey Through the Pages

A book in hand, the pages turn,
Each word a spark, a thought to burn.
With every chapter, worlds unfold,
A story waiting to be told.

Through distant lands, my mind will fly,
With every sentence, I will sigh.
The heroes rise, the villains fall,
A tale of wonder, big and small.

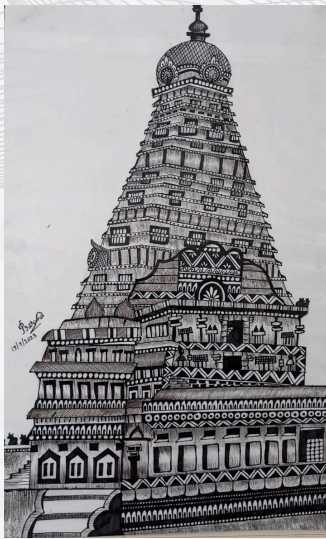
The ink that stains the pages bright,
Is woven deep into the night.
A journey long, yet never done,
For in each book, a new world's spun.

And though the cover may grow old,
The tales within will still be told,
For books are magic, ever true,
They take us places, old and new.

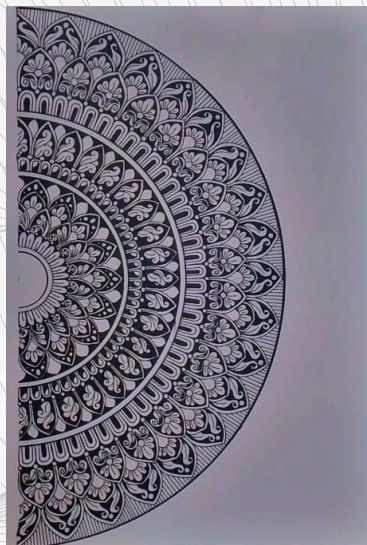
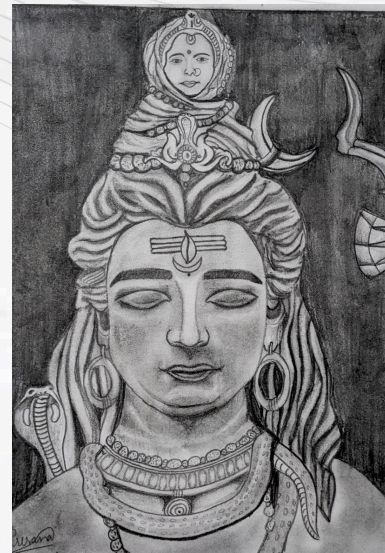


Rohanaa N G
4BD21CS121
7th semester

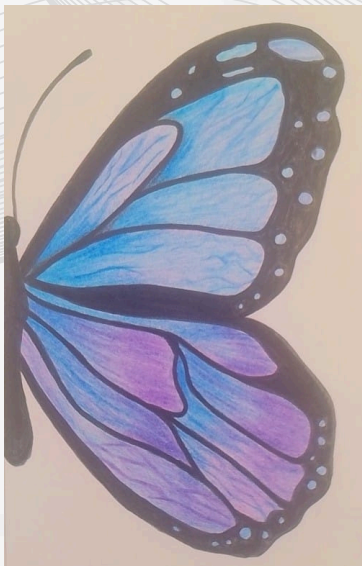
Art Gallery



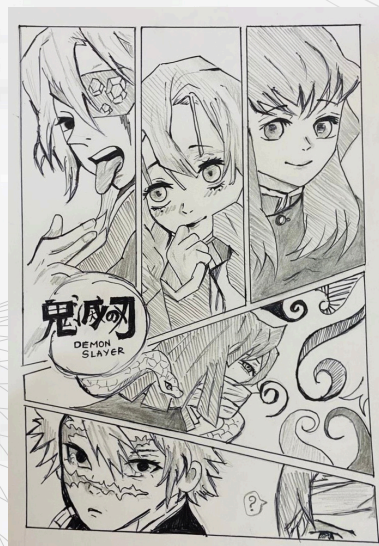
Prerana H D
3rd Sem D sec



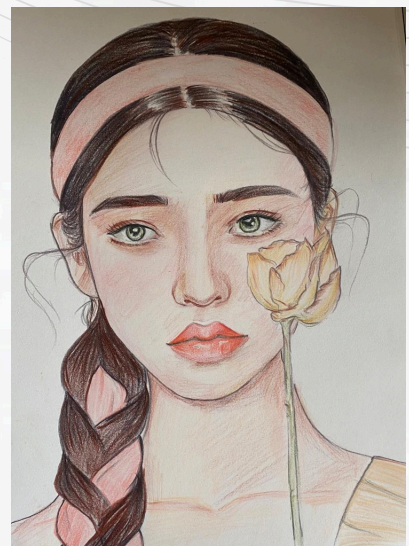
Sandhya Belavi
3rd sem D section



Sandhya Belavi
3rd sem D section



Sanjana N
3rd Sem D section



Samanvitha K
3rd Sem D section