RUBARU
NEWSLETTER

Bearys
INSTITUTE OF TECHNOLOGY (BIT)

LANDS END, INNOLI, MANGALORE - 574199

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CODE CHRONICLE

— IGNITING IDEAS, BUILDING FUTURES. —

Dec 2025 - May 2026

A bi-annual newsletter showcasing innovation, coding events, research and achievements.

CSE VISION

To be a center of excellence in Computer Science and Engineering education and research, fostering innovation, ethical computing, and societal impact for a sustainable future.

CSE MISSION

01 Empower students with strong computing fundamentals, technical skills, and a problem-solving mindset to address complex computing challenges with confidence and responsibility.

02 Promote research and innovation in emerging areas of computer science, encouraging ethical practices and responsible technology use for sustainable societal development.

03 Foster collaboration with industry and interdisciplinary fields, and cultivate lifelong learning to prepare students for global careers,

VISION

To be a premier institution in engineering education and research, fostering innovation, societal responsibility, and ethical leadership for a sustainable future.

MISSION

1. Promote innovation and cutting-edge research to develop sustainable engineering solutions for real-world and global challenges.
2. Cultivate ethical leadership and technical excellence among students to become responsible and leading engineering professionals.
3. Encourage active societal engagement and industry collaboration to drive inclusive growth and environmental responsibility.

PROGRAM EDUCATIONAL OBJECTIVES P E O

1.Graduates willbuildrobust and efficient computing systems by applying strong technical knowledge, ethical practices, and problem-solving skills in professional environments.

2.Graduates will pursue advanced studies, research, or innovation-driven careers, contributing to sustainable development and technological progress.

3. Graduates will demonstrate leadership, adaptability, and a commitment to lifelong learning while working in interdisciplinary teamsandglobal contexts.

PROGRAM SPECIFIC OUTCOMES P S O

1.ProfessionalITdevelopment and problem solving skills.

2.Preparing graduands for higher education and competitive exams.

3.Successful career and Entrepreneu- rship.

PROGRAM OUTCOME's

1. Engineering Knowledge

Applya the knowledge mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. Problem analysis

Identify, formulate, review research literature, and analyze complex engineering problems to reach substantiated conclusions using the first principles of mathematics, natural sciences, and engineering sciences.

3.Design/ Development of Solutions

Design solutions for complex engineering problems and develop system components or processes that meet specified needs with appropriate consideration for public health and safety, as well as cultural, societal, and environmental factors.

4. Conduct investigations of complex problems

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities with an understanding of their limitations.

5.Modern Tool Usage

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesisof the information to provide validconclusions.

Message from HOD

VOLUME – 1 | ISSUE – 1

Dear Students, Faculty Members, Alumni,
Industry Partners, and Readers,

It gives me immense pleasure to present the Computer Science and Engineering Department Newsletter 2025–2026 of Bearys Institute of Technology. This edition highlights the remarkable achievements, academic milestones, innovative projects, research contributions, placement successes, and extracurricular accomplishments of our students and faculty throughout the academic year.

The Department of Computer Science and Engineering continues to strive for excellence by fostering innovation, critical thinking, technical competence, and lifelong learning. In an era driven by Artificial Intelligence, Data Science, Cyber Security, Cloud Computing, and emerging technologies, we remain committed to providing our students with a strong academic foundation, practical exposure, and industry-oriented skills that prepare them to excel in their professional careers.

NBA ACCREDITATION ACHIEVEMENT – 2025–2026

I am delighted to share that the Department of Computer Science and Engineering has successfully achieved **NBA Accreditation** during the academic year 2025–2026. This prestigious recognition reflects our unwavering commitment to academic excellence, outcome-based education, continuous improvement, and quality enhancement in engineering education.

This milestone has been made possible through the collective efforts of our dedicated faculty members, enthusiastic students, supportive management, accomplished alumni, and valued stakeholders. The accreditation stands as a testament to the department's commitment to nurturing competent engineers capable of meeting the evolving demands of industry and society.

The department actively promotes innovation, research, technical workshops, hackathons, certification programs, internships, and industry collaborations to enrich the learning experience of our students. We take pride in creating an environment that encourages creativity, leadership, entrepreneurship, and professional ethics.

I sincerely appreciate the relentless efforts of our faculty members, staff, student coordinators, and editorial team whose dedication and hard work have made this newsletter possible. Their contributions continue to strengthen the department's academic and professional ecosystem.

As we move forward, let us continue to embrace challenges, explore new opportunities, and work together towards achieving greater heights of excellence in education, research, and technology.
I extend my best wishes to all our students and faculty members for a successful and rewarding academic journey ahead.

With warm regards,

Dr. B. Aziz Mustafa
Professor & Head
Department of Computer Science and Engineering
Bearys Institute of Technology, Mangaluru

Events

CSE Alumni Interaction with Student

Date: 1st January 2026
Resource Person: Mr. Manohar Kumar, Junior Software Developer, EGDK India Private Limited.
Organized By: Department of Computer Science and Engineering.
Venue: Classroom A202, Dept. of CSE, Bearys Institute of Technology, Mangaluru.

The interaction session provided a platform for alumni to share their academic experiences, career journeys, and professional insights. Students actively engaged with alumni through discussions and queries related to career opportunities, skill requirements, and industry trends. The session encouraged networking and mentorship between alumni and students. The objective of the alumni interaction was to connect current students with alumni and provide guidance on career planning, higher education, and industry expectations.

Students received practical guidance and motivation from Mr. Manohar Kumar, Junior Software Developer, EGDK India Private Limited, a BIT CSE alumni, helping them gain clarity on career paths and professional growth.

The alumni interaction strengthened alumni-student relationships and played a significant role in motivating students towards informed career decisions.

AWS Cloud Workshop

Date: 20th February 2026
Resource Person: Mr. Shah Qasim Usmani, Computer Trainer, RIE(NCERT), Mysore.
Venue: Intelligent and Embedded System Laboratory, Department of Computer Science & Engineering
Organized by: Departments of Computer Science & Engineering, CEA-BIT.

The Departments of Computer Science & Engineering of Bearys Institute of Technology, Mangalore, in association with the Computer Engineer Association of Bearys Institute of Technology , organized a Hands-on AWS Cloud Workshop on 20th February 2026 at Intelligent and Embedded System Laboratory of Department of Computer Science & Engineering.

The session was conducted by Mr. Shah Qasim Usmani, Computer Trainer, RIE (NCERT), Mysuru, During the session, participants were introduced to the fundamentals of cloud computing with a special focus on Amazon Web Services and its role in modern IT infrastructure. The session covered key AWS cloud services such as cloud storage, virtual servers, networking, security, and database management, helping attendees understand how organizations use cloud technology to improve scalability, reliability, and cost efficiency. Practical demonstrations highlighted the deployment of applications on the AWS platform, along with concepts like Elastic Compute Cloud (EC2), Simple Storage Service (S3), and cloud security best practices. The session also emphasized the growing demand for cloud professionals and the importance of AWS certifications in today's technology-driven industry. Participants gained valuable insights into real-world cloud applications and developed a clearer understanding of how AWS supports digital transformation across various sectors.

The program commenced with a warm welcome address delivered by HOD, Prof. Sinan from the Department of Computer Science & Engineering. He highlighted the significance of open-source technologies and appreciated the enthusiastic participation from students of the department.

The event witnessed active participation from students, who appreciated the hands-on exposure and expressed interest in attending more such skill-driven workshops in the future.

LINUX Workshop

Date: 20th February 2026
Resource Person: Mr. Shah Qasim Usmani, Computer Trainer, RIE(NCERT), Mysore.
Venue: Intelligent and Embedded System Laboratory, Department of Computer Science & Engineering
Organized by: Departments of Computer Science & Engineering, CEA-BIT.

The Departments of Computer Science & Engineering and CEA-BIT organized a "LINUX Workshop" on 20th February 2026 at the Intelligent and Embedded System Laboratory, Department of Computer Science & Engineering, Bearys Institute of Technology. The workshop was conducted by Mr.Shah Qasim Usmani, Computer Trainer at RIE (NCERT), for both students and faculty members.

The session provided practical exposure to the Linux operating system, covering topics such as Linux commands, file management, shell scripting, system administration, and open-source tools widely used in the IT industry. The resource person also highlighted the importance of Linux in areas like software development, cyber security, cloud computing, and server management through interactive demonstrations and hands-on activities.

The workshop proved to be highly informative and beneficial, enhancing the technical knowledge and practical skills of both students and faculty participants.

Bharat Environment Program – A Bharath Sustainability Mission 2026
Earth Week (22nd April- April 29th , 2026)

Date: 28th April 2026
Venue: Bearys Knowledge Campus, Innoli Junction, Pavoor Ayushman Arogya Mandir
Organized by: Departments of Computer Science & Engineering, CEA-BIT.

The Department of Computer Science and Engineering (CSE) organized and actively participated in the Bharat Environment Program – Earth Week 2026 by organizing a Community Outreach Activity aimed at promoting environmental sustainability and social responsibility among the local community. The program was conducted during Earth Week from April 22 to April 29, 2026, as part of the Bharath Sustainability Mission 2026.

Students and faculty members carried out awareness campaigns in nearby residential areas and community health centre, focusing on important topics such as waste segregation, plastic reduction, water conservation, and sustainable living practices. Interactive sessions, door-to-door awareness drives, and demonstrations on eco-friendly habits were conducted to encourage community participation and behavioral change.

The activity successfully strengthened the connection between students and the community while creating awareness about environmental protection and sustainable practices. Through this initiative, the Department of CSE demonstrated its commitment toward building a cleaner, greener, and more sustainable society.

Educating Campaign

Date: 28th April 2026
Venue: Pre-University Seminar Hall, Bearys Integrated Pre-University College, Inoli
Organized by: Departments of Computer Science & Engineering, CEA-BIT.

On 28th April 2026, the Departments of Computer Science & Engineering and CEA-BIT organized an "Educating Campaign" at the Pre-University Seminar Hall, Bearys Integrated Pre-University College, with the objective of creating awareness about building a sustainable world and encouraging environmentally responsible practices among students.

The session focused on topics such as environmental conservation, sustainable living, waste management, and the importance of community participation in protecting natural resources.

Members of CEA-BIT actively interacted with the participants through informative presentations and awareness discussions, motivating students to adopt eco-friendly habits in their daily lives.

The Head of the Department of Computer Science and Engineering, Mr. M. Sinan M, was present during the session and appreciated the efforts of the organizing team in promoting sustainability awareness and social responsibility among young learners. The program concluded successfully with positive participation and enthusiastic response from the attendees.

Alumni Talk: Industry Oriented Skill Development for Engineers

Date: 4th May 2026
Resource Person: Mr. Javid Khan, CEO, Digiscript Technologies
Venue: International Seminar Hall, Bearys Institute of Technology, Inoli
Organized by: Departments of Computer Science & Engineering, CEA-BIT.

The Departments of Computer Science & Engineering and CEA-BIT organized an “Alumni Talk: Industry Oriented Skill Development for Engineers” on 4th May 2026 at the International Seminar Hall, Bearys Institute of Technology. The session was delivered by Javid Khan, CEO of Digiscript Technologies, who shared valuable insights on the skills and competencies required for engineering students to succeed in the modern industry environment.

The talk emphasized the importance of technical expertise, communication skills, problem-solving abilities, teamwork, and continuous learning to meet evolving industry demands. The resource person also guided students on career opportunities, industry expectations, emerging technologies, and the significance of practical knowledge alongside academic learning. The session was highly interactive and informative, motivating students to enhance their professional skills and prepare effectively for future career challenges.

Parent Faculty Meeting - Hybrid Mode

The Department of Computer Science & Engineering organized a “Parent Faculty Meeting – Hybrid Mode” on 5th May 2026 and 9th May 2026 at the CSE Seminar Hall, Bearys Institute of Technology. The meeting was conducted in hybrid mode to facilitate the participation of parents through both offline and online platforms.

The Head of the Department, Course Coordinators, and Class Teacher were present during the meeting and actively interacted with parents regarding the academic progress and overall development of the students. Discussions were carried out by categorizing students as slow learners, average learners, and fast learners based on their performance and learning abilities.

Parents were also informed about the importance of discipline, regular attendance, and continuous academic improvement.

In addition, details regarding upcoming training programs and skill development activities planned for the next semester were shared to help students enhance their technical and professional competencies.

The meeting provided a valuable platform for strengthening communication and collaboration between parents and faculty members for the holistic development and success of students.

BIT TechVerse Hackathon-2026

Date: 9th May 2026 and 10th May 2026
Venue: International Seminar Hall
Organized by: Departments of Computer Science & Engineering, Departments of Artifical Intelligence & Data Science, CEA-BIT, BIT-ADVA

The “BIT TechVerse Hackathon–2026” was successfully organized on 9th and 10th May 2026 at the International Seminar Hall, Bearys Institute of Technology. The event was 24-hour intercollegiate hackathon and was jointly conducted by the Departments of Computer Science & Engineering, Artificial Intelligence & Data Science, CEA-BIT, and BIT-ADVA with the objective of encouraging innovation, teamwork, and problem-solving skills among students.

The two-day Hackathon provided a dynamic platform for participants to showcase their technical expertise, creativity, and entrepreneurial thinking by developing innovative solutions to real-world challenges.

Participants worked on real-world challenges in domains such as Med Tech, Future Tech and Rural Tech. The 40 shortlisted teams participated and 160 students from across Karnataka came together for 24 hours of innovation, creativity and problem-solving, the hackathon created a vibrant learning environment where students gained hands-on experience, improved teamwork and communication skills, and explored emerging technologies under the guidance of faculty members and mentors.

The projects were evaluated by a panel of judges based on creativity, technical implementation, feasibility, and presentation, and the event concluded with a valedictory session and prize distribution ceremony recognizing the best-performing teams.

The first place was won by DecodeX Team of PES Institute of Technology, Shivamogga, second place was bagged by VisionX Team of Bearys Institute of Technology, Mangalore and the third place is of Stop Sign Team, Yenepoya Institute of Technology, Moodabidri. The esteemed industry judges Ms. Vaidehi Muluru, Mr. Sumanth Shenoy, Mr.Adithya Swaroop Kekukodi and Mr.Gautham Nayak gave their valuable guidance and evaluation. Overall, the hackathon served as an inspiring platform that encouraged innovation, creativity, and industry-oriented learning among students.

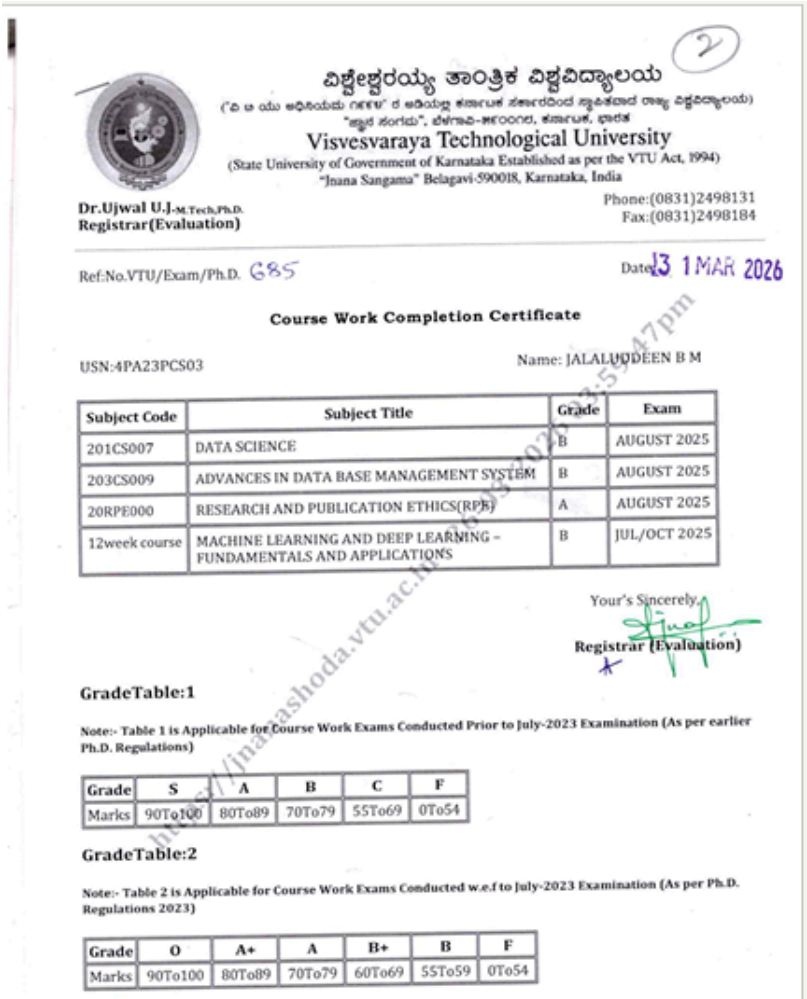
The Department of Computer Science and Engineering, in association with IEEE, IQAC, and Dassault Systèmes, organized a webinar on “AAKRUTI Innovation Competition 2026” on 14th May 2026 at the International Seminar Hall, encouraging students towards innovation, research, and product development.

FACULTY ACHIEVEMENTS & CERTIFICATIONS

Ms. Khateeja Samrin participated in the International Workshop on “AI Empowered Pedagogy: Innovative Digital Strategies for Educator” organized by Manuscriptpedia, Kanniyakumari, from 9th March to 14th March 2026 through online pedagogy.

Ms. Shaima Rauf, Teaching Assistant, successfully completed the AICTE ATAL Faculty Development Program on “Digital Forensics in Cyber Security” conducted at ALVA’S Institute of Engineering and Technology from 5th January to 10th January 2026.

Ms. Khateeja Samrin, Assistant Professor, successfully completed the AICTE ATAL Faculty Development Program on “Digital Forensics in Cyber Security” conducted at ALVA’S Institute of Engineering and Technology from 5th January to 10th January 2026.



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

Visvesvaraya Technological University

(State University of Government of Karnataka Established as per the VTU Act, 1994)

"Jnana Sangama" Belagavi-590018, Karnataka, India

Dr.Ujwal U.J-M.Tech,Ph.D.
Registrar(Evaluation)

Phone:(0831)2498131
Fax:(0831)2498184

Ref:No.VTU/Exam/Ph.D. 685

Date: 13 MAR 2026

Course Work Completion Certificate

USN:4PA23PCS03 Name: JALALUDDEEN B M

Subject Code	Subject Title	Grade	Exam
201CS007	DATA SCIENCE	B	AUGUST 2025
203CS009	ADVANCES IN DATA BASE MANAGEMENT SYSTEM	B	AUGUST 2025
20RPE000	RESEARCH AND PUBLICATION ETHICS(RPE)	A	AUGUST 2025
12week course	MACHINE LEARNING AND DEEP LEARNING – FUNDAMENTALS AND APPLICATIONS	B	JUL/OCT 2025

Your's Sincerely,

Registrar (Evaluation)

GradeTable:1

Note:- Table 1 is Applicable for Course Work Exams Conducted Prior to July-2023 Examination (As per earlier Ph.D. Regulations)

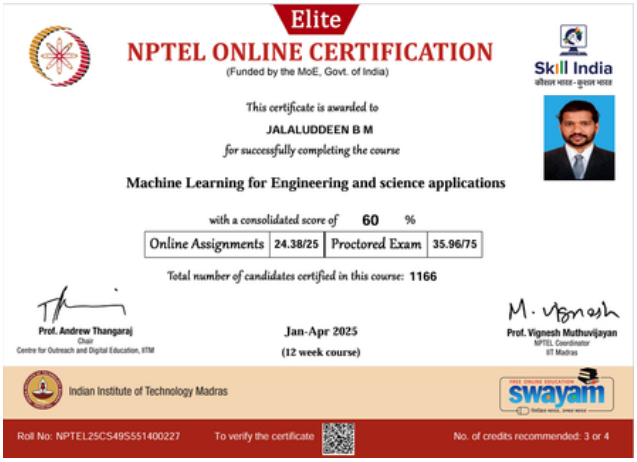
Grade	S	A	B	C	F
Marks	90To100	80To89	70To79	55To69	0To54

GradeTable:2

Note:- Table 2 is Applicable for Course Work Exams Conducted w.e.f to July-2023 Examination (As per Ph.D. Regulations 2023)

Grade	O	A+	A	B+	B	F
Marks	90To100	80To89	70To79	60To69	55To59	0To54

Mr. Jalaludeen B M successfully completed the Ph.D. course work under Visvesvaraya Technological University in subjects including Data Science, Database Management Systems, Research and Publication Ethics, and Machine Learning & Deep Learning Fundamentals and Applications. The course work enhanced his knowledge in advanced research methodologies, data analysis techniques, artificial intelligence concepts, and ethical research practices. This achievement reflects his commitment towards academic excellence, research innovation, and continuous professional development in emerging areas of computer science and engineering. His research work titled “Vision Based Predictive Analytics for Arecanut Plant Health: An Integrated Deep Learning Approach for Early Disease Forecasting” focuses on applying deep learning techniques for intelligent agricultural disease prediction and sustainable farming solutions.



Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

JALALUDDEEN B M

for successfully completing the course

Machine Learning for Engineering and science applications

with a consolidated score of 60 %

Online Assignments	24.38/25	Proctored Exam	35.96/75

Total number of candidates certified in this course: 1166

Prof. Andrew Thangaraj
Chair
Centre for Outreach and Digital Education, IITM

Jan-Apr 2025
(12 week course)

Prof. Vignesh Muthuvijayan
NPTEL Coordinator
IIT Madras

Indian Institute of Technology Madras

swayam

Roll No: NPTEL25CS49S551400227 To verify the certificate No. of credits recommended: 3 or 4

Mr. Jalaludeen B M successfully completed the NPTEL online certification course on “Machine Learning for Engineering and Science Applications” conducted by Indian Institute of Technology Madras. The course enhanced knowledge in machine learning concepts, engineering applications, and data-driven problem-solving techniques relevant to modern technological advancements.

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

JALALUDDEEN B M

for successfully completing the course

Machine Learning and Deep Learning - Fundamentals and Applications

with a consolidated score of 55 %

Online Assignments	23.44/25	Proctored Exam	31.5/75

Total number of candidates certified in this course: 1755

Jul-Oct 2025
(12 week course)

Dr. Salil Kashyap
Coordinator, Centre for Educational Technology
IIT Guwahati

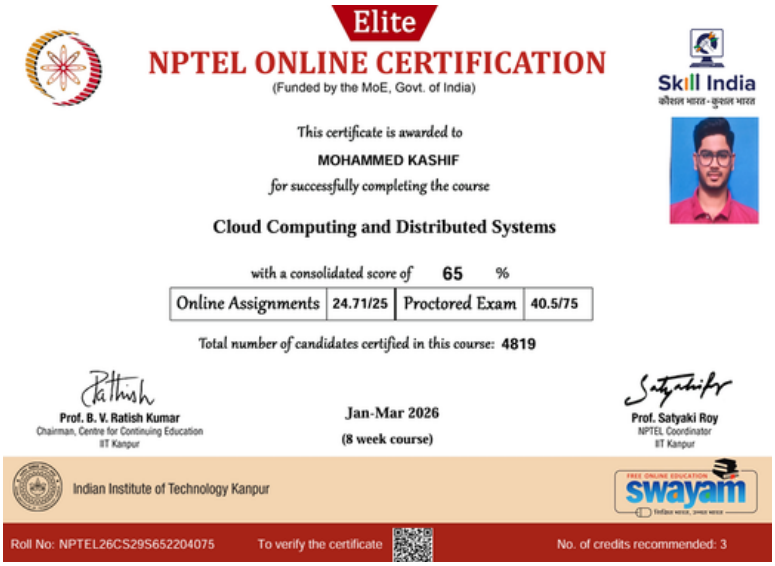
Indian Institute of Technology Guwahati

swayam

Roll No: NPTEL25EE181S1262800863 To verify the certificate No. of credits recommended: 3 or 4

Mr. Jalaludeen B M successfully completed the NPTEL online certification course on “Machine Learning and Deep Learning – Fundamentals and Applications” conducted by Indian Institute of Technology Guwahati. The course enhanced knowledge in machine learning algorithms, deep learning concepts, and their practical applications in engineering and modern intelligent systems.

STUDENT CERTIFICATIONS


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

MOHAMMED KASHIF

for successfully completing the course

Cloud Computing and Distributed Systems

with a consolidated score of 65 %

Online Assignments	24.71/25	Proctored Exam	40.5/75

Total number of candidates certified in this course: 4819

Prof. B. V. Ratish Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Jan-Mar 2026
(8 week course)

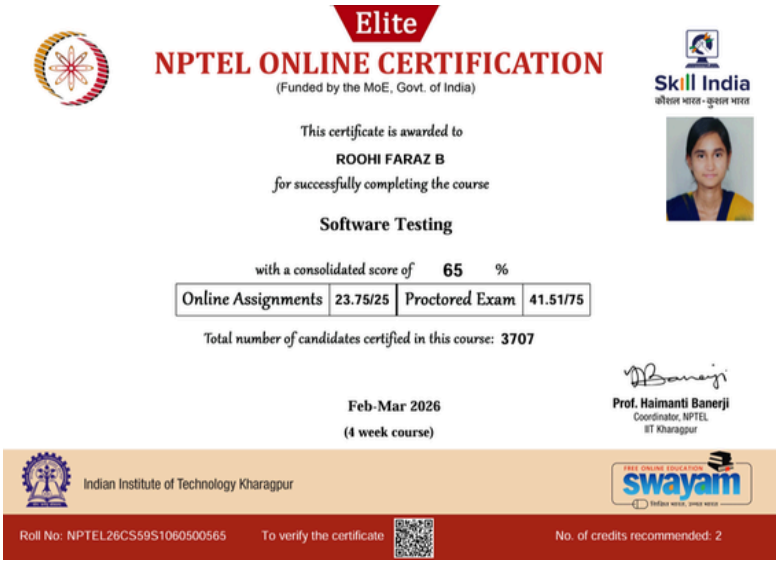
Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

swayam

Roll No: NPTEL26CS29S652204075 To verify the certificate No. of credits recommended: 3

Mohammed Kashif successfully completed the NPTEL online certification course on “Cloud Computing and Distributed Systems” conducted by Indian Institute of Technology Kanpur. The course enhanced knowledge in cloud infrastructure, distributed computing concepts, virtualization, and modern computing technologies used in scalable and efficient software systems.


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

ROOHI FARAZ B

for successfully completing the course

Software Testing

with a consolidated score of 65 %

Online Assignments	23.75/25	Proctored Exam	41.51/75

Total number of candidates certified in this course: 3707

Prof. Haimanti Banerji
Coordinator, NPTEL
IIT Kharagpur

Feb-Mar 2026
(4 week course)

Indian Institute of Technology Kharagpur

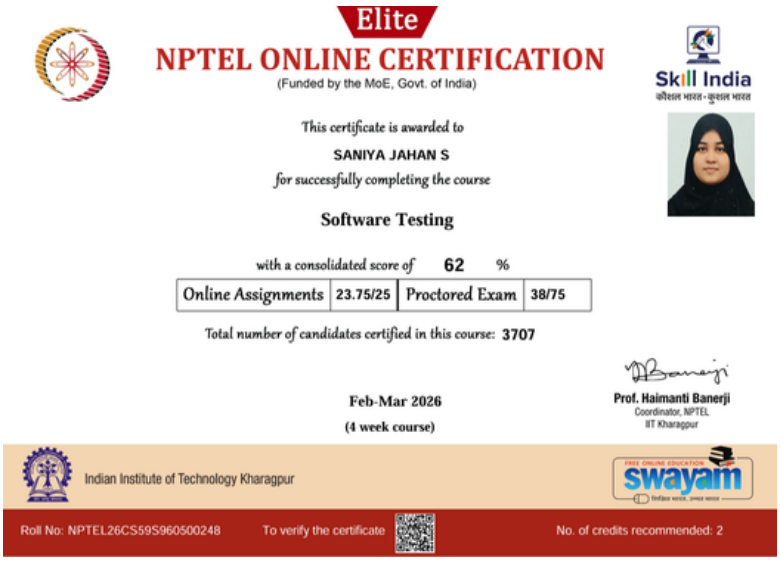
swayam

Roll No: NPTEL26CS59S1060500565 To verify the certificate No. of credits recommended: 2

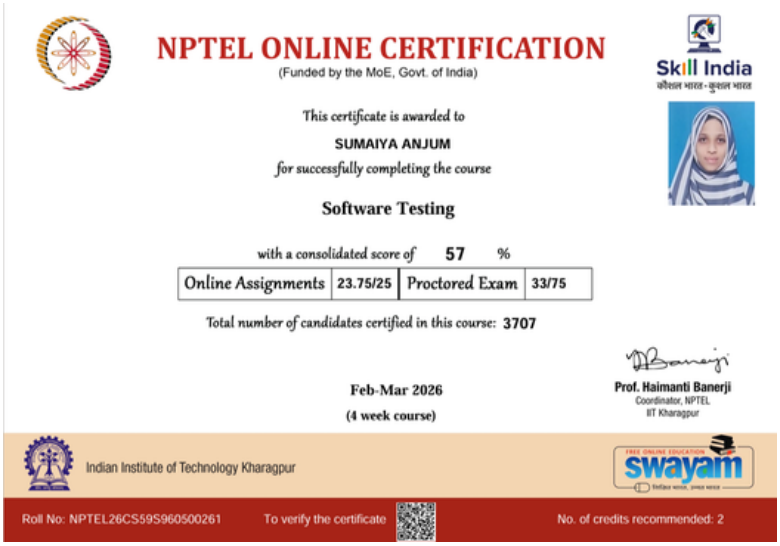
Roohi Faraz B successfully completed the NPTEL online certification course on “Software Testing” conducted by Indian Institute of Technology Kharagpur, enhancing knowledge in software testing and quality assurance techniques.

Shaik Mahammed Muthahar successfully participated in the Cyber Security Workshop organized by Thetechunique Academy on 7th March 2026. The workshop enhanced knowledge on cyber security concepts, digital safety, and modern security practices used in protecting computer systems and data.

Shaik Mahammed Muthahar actively participated in the masterclass on “Build A Career in Cybersecurity in 2026” conducted by WsCube Tech on 8th March 2026. The session provided valuable insights into career opportunities, skills, and emerging trends in the field of cyber security.

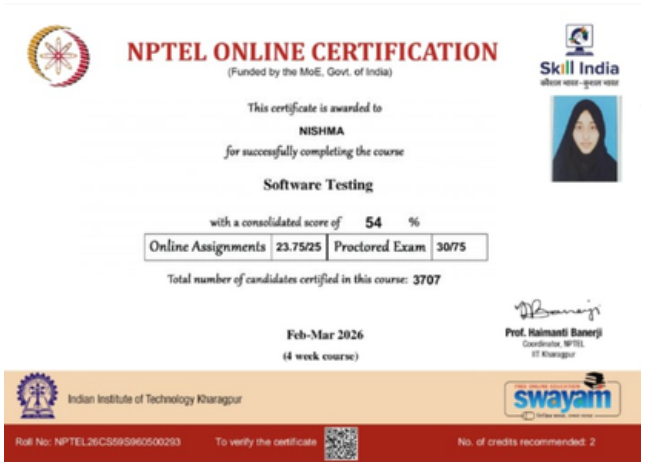


Saniya Jahan S successfully completed the NPTEL online certification course on “Software Testing” conducted by Indian Institute of Technology Kharagpur, enhancing knowledge in software testing and quality assurance techniques.



Sumaiya Anjum successfully completed the NPTEL online certification course on “Software Testing” conducted by Indian Institute of Technology Kharagpur, enhancing knowledge in software testing and quality assurance techniques.

Taskin Fathima successfully completed the NPTEL online certification course on “Software Testing” conducted by Indian Institute of Technology Kharagpur, enhancing knowledge in software testing and quality assurance techniques.

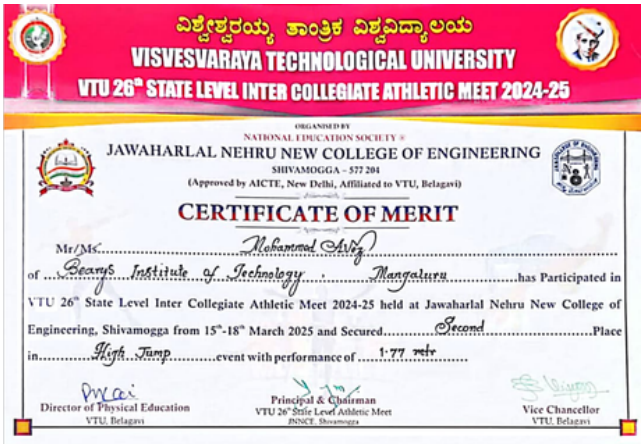


Nishma successfully completed the NPTEL online certification course on “Software Testing” conducted by Indian Institute of Technology Kharagpur, enhancing knowledge in software testing and quality assurance techniques.

Shaik Mahammed Muthahar successfully completed the AI Tools and ChatGPT Workshop conducted by be10x on 8th March 2026. The workshop provided practical exposure to AI-powered tools for presentations, data analysis, coding, and debugging, enhancing productivity and technical skills.

Sharanabasava successfully completed the online course on Database Management System offered by Great Learning Academy. The course enhanced knowledge in database concepts, data management techniques, and structured query language fundamentals essential for modern computing applications.

Mohammed Alvez of Bearys Institute of Technology secured Third Place in the High Jump event at the 25th VTU Inter Collegiate State Level Athletic Meet 2023–24 held at VTU Regional Centre, Mysuru, demonstrating outstanding athletic performance and sportsmanship.



Mohammed Alvez of Bearys Institute of Technology, Mangaluru secured Second Place in the High Jump event at the VTU 26th State Level Inter Collegiate Athletic Meet 2024–25 held at Jawaharlal Nehru New College of Engineering, Shivamogga, demonstrating outstanding athletic excellence and sportsmanship.

CREATIVE CORNER

PAINTING 1

Golden Hour Memories

Mohammad Kashif,
3rd Year CSE

PAINTING 2

Harmony of Nature and Technology

Amrutha T.S,
3rd Year CSE

POETRY CORNER

POETRY 1

In glowing screens and silent nights,
We chase our dreams through coding lights.
With every error, every try,
We learn to stand, we learn to fly.

Through lines of hope and thoughts so free,
Technology shapes what we can be.
A future built with skill and art,
Begins with one determined heart.

Sharanabasava,
3rd Year CSE

POETRY 2

Busy classrooms, laughter loud,
Moments simple, yet we're proud.
Assignments, projects, sleepless days,
Memories shine in countless ways.

Friends who stayed through every test,
Made ordinary moments best.
Years may pass and time may flee,
But college lives in memory.

Shaik Mahammed Muthahar,
3rd Year CSE

POETRY 3

Every challenge makes us strong,
Even when the road feels long.
Failures teach and help us grow,
Guiding every step we know.

With courage bright and dreams ahead,
We walk the path where hope is spread.
Success belongs to those who try,
Who never stop and never shy.

Kishan,
2nd Year CSE

ARTICLES

LARGE LANGUAGE MODELS: HOW MACHINES LEARNED TO SPEAK OUR LANGUAGE

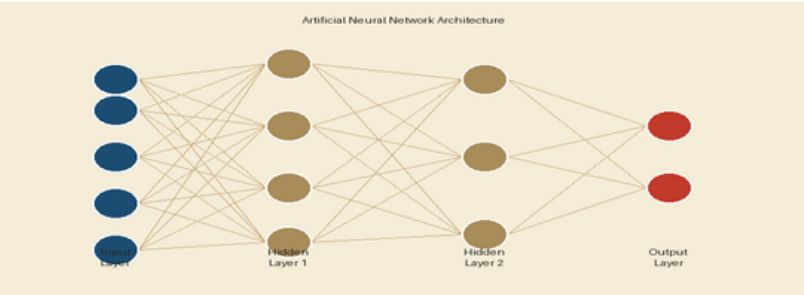
"A language model that reads billions of books doesn't understand the world — yet it predicts the next word better than most humans can."

Not long ago, getting a computer to write a coherent sentence felt like a research miracle. Today, tools such as ChatGPT, Gemini, and Claude produce essays, debug code, and hold multi-turn conversations — all powered by Large Language Models (LLMs). But how do they actually work, and why did progress happen so suddenly?

What Is a Language Model?

At its core, a language model assigns a probability to a sequence of words. Given "The sky is ___", it predicts "blue" is far more likely than "purple". Early models like n-grams counted word co-occurrences — useful for spell-checkers but hopeless at understanding long-range context.

The breakthrough came in 2017 with Google's paper "Attention Is All You Need", introducing the **Transformer architecture**. Unlike recurrent networks, Transformers examine every word simultaneously through self-attention, relating distant words in a single computational step.



Scale Changes Everything

Training a Transformer on more data with more parameters produced qualitatively better behaviour — writing, reasoning, even arithmetic — without changing the core algorithm. GPT-3 (2020) had 175 billion parameters and could write poetry and translate languages with zero task-specific training. This is called emergent capability: abilities that appear suddenly as scale crosses certain thresholds.

Instruction Fine-Tuning and RLHF

A raw pre-trained model doesn't follow instructions reliably. Reinforcement Learning from Human Feedback (RLHF) fixes this: human raters compare model outputs, a reward model learns their preferences, and the LLM is guided to produce better responses — transforming raw GPT-3 into the conversational ChatGPT.

Why This Matters for CSE Students

LLMs are reshaping software engineering. GitHub Copilot auto-completes code; systems like Devin prototype entire applications from text descriptions. Knowing how to prompt, evaluate, fine-tune, and deploy these models is becoming a core professional skill. The era of AI-augmented programming is already here.

S **Suhail**
I Year CSE | Dept. of Computer Science & Engineering

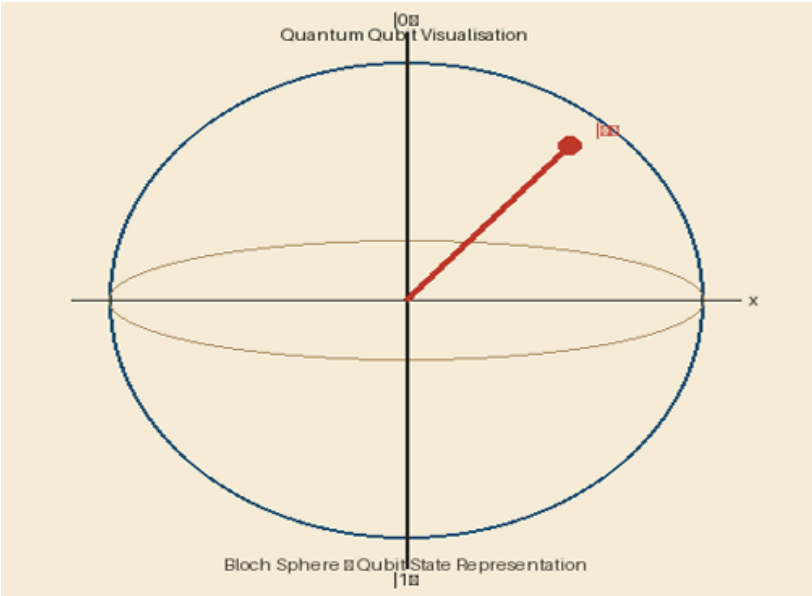
QUANTUM COMPUTING: THE NEXT FRONTIER BEYOND SILICON

"A quantum computer does not compute faster — it computes differently, exploring all possible answers simultaneously before collapsing to the correct one."

Every device in the world runs on classical bits: switches that are either 0 or 1. For a specific class of problems — drug discovery, cryptography, optimisation — classical computers hit an insurmountable wall. Quantum computing breaks that wall using the strange physics of the subatomic world.

What Is a Qubit?

The fundamental unit of quantum computing is the qubit. Unlike a classical bit, a qubit can exist in superposition of 0 and 1 simultaneously — until measured. Two qubits represent four states at once; three represent eight. With just 300 qubits in full superposition, the number of states exceeds all atoms in the observable universe.



Entanglement and Interference

Two qubits can be entangled: measuring one instantly determines the state of the other regardless of distance — what Einstein called "spooky action at a distance." Quantum algorithms exploit interference to amplify correct answers and suppress incorrect ones, giving rise to exponential speedups for specific problems.

Where We Stand Today

IBM's Condor processor reached 1,121 qubits in 2023. However, today's machines are NISQ (Noisy Intermediate-Scale Quantum) devices — qubits decohere rapidly, limiting computation depth. Error correction remains the defining challenge of the next decade of quantum research.

Impact on Computer Science

For CSE students, post-quantum cryptography is already critical: NIST finalised its first quantum-resistant encryption standards in 2024, and engineers worldwide must migrate systems before quantum hardware matures. Understanding qubits and quantum complexity today is the wisest career investment for tomorrow's engineer.

S **Suhail**
I Year CSE | Dept. of Computer Science & Engineering

PROMPT ENGINEERING: THE NEW ART OF TALKING TO MACHINES

"The quality of an AI's answer is bounded by the quality of your question. Prompt engineering is the craft of asking the right question."

You already know how to Google. But do you know how to prompt? As Large Language Models become embedded in software workflows, a new engineering discipline has emerged — one requiring no code and no maths, but considerable precision: Prompt Engineering.

Why Prompts Matter

An LLM's output changes dramatically based on phrasing. "Summarise this article" yields a different result from "You are a journalist writing a 3-sentence summary. Use active voice." The second prompt activates a more specific, constrained region of the model's learned behaviour — producing reliably better results every time.

Core Techniques

Zero-shot prompting gives the model only the task with no examples. Few-shot prompting prepends 2–5 input/output pairs so the model infers the pattern. Chain-of-Thought (CoT) instructs the model to reason step by step before answering — improving accuracy on maths and logic by up to 40%. Simply appending "Think step by step" can dramatically boost reasoning benchmark scores.

Prompt Injection and Security

When LLMs are embedded in applications, malicious users can craft inputs that override the system prompt — a vulnerability called prompt injection. Defending against it is as critical as SQL injection defence was in the 2000s. Output validation, sandboxing, and strict privilege separation are the key countermeasures every CSE engineer must know.

A Skill Worth Developing Now

Prompt engineering is already listed on job descriptions at companies ranging from startups to Fortune 500 firms. A well-crafted prompt turns an LLM into a patient tutor, code reviewer, mock interviewer, or documentation generator — available 24 hours a day. Engineers who learn to work with AI will define the next generation of Software

S Suhail
I Year CSE | Dept. of Computer Science & Engineering

CONCLUSION

The academic year 2025–2026 was a successful and productive year for the Department of Computer Science and Engineering, marked by achievements in academics, technical activities, research, innovation, and student development. Various workshops, seminars, hackathons, certification programs, placement activities, and outreach initiatives provided valuable learning opportunities for both students and faculty members. The department continued to promote technical excellence, innovation, and professional growth through active participation in industry-oriented and academic activities. The achievements and accomplishments throughout the year reflect the dedicated efforts of faculty members, enthusiastic participation of students, and the continuous support of the management in creating a strong and progressive learning environment.

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FOR ENQUIRIES, CONTACT US.

Bearys Institute of Technology (BIT)

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