

About the College

CBIT is one of the premier Engineering Institutes in India, pioneer in Telangana State, which is at idyllic surroundings of Gandipet Lake, Hyderabad. The college offers Nine UG and Eleven PG programs. It has been standing as a temple of knowledge for the past 45 years by producing more than 25,000 eminent and skillful graduate engineers, who are successful in their careers, serving all over the globe. The Institute has been accredited by NAAC - UGC with 'A++' Grade and various programs are accredited by NBA - AICTE. The institution is UGC autonomous since 2013-14. Stringent academic standards, industry compliant teaching methodology, research projects from private and public sector organizations and consultancy practice enabled the Institute to establish its identity in the Technical Education and is ranked as one of the best amongst the private engineering colleges.

About the Department

Established in 2020 at CBIT, the Department of Artificial Intelligence and Data Science has experienced substantial growth. Initially enrolling 60 students, it now offers a comprehensive Undergraduate program in B.E. (Artificial Intelligence & Data Science) with 120 students and a specialized Postgraduate program in M.Tech. (Artificial Intelligence & Data Science) with 18 students. With 18 dedicated faculty members, including 2 Professors, 4 Associate Professors, and 12 Assistant Professors, the department ensures an enriching learning environment. Prioritizing experiential learning, the curriculum integrates hands-on instructions, research projects, internships, and project-based courses, fostering collaboration within interdisciplinary teams. Research areas encompass Algorithms, Artificial Intelligence, Image Processing, Pattern Recognition, Machine Learning, Data Mining, Big Data Analytics, and Computer Security. This aligns with the department's commitment to shaping the future through cutting-edge education and research initiatives.

Department Vision

To be a globally recognized center of excellence in the field of Artificial Intelligence and Data Science that produces innovative pioneers and research experts capable of addressing complex real-world challenges and contributing to the socio-economic development of the nation.

Department Mission

- To provide cutting-edge education in the field of Artificial Intelligence and Data Science that is rooted in ethical and moral values.
- To establish strong partnerships with industries and research organizations in the field of Artificial Intelligence and Data Science, and to excel in the emerging areas of research by creating innovative solutions.
- To cultivate a strong sense of social responsibility among students, fostering their inclination to utilize their knowledge and skills for the betterment of society.
- To motivate and mentor students to become trailblazers in Artificial Intelligence and Data Science, and develop an entrepreneurial mindset that nurtures innovation and creativity.

About the Guest Lecture

Explore the foundations of algorithmic thinking with our upcoming guest lecture on Design and Analysis of Algorithms at CBIT. The session aims to improve students' computational problem-solving abilities by teaching "NP Completeness" and "Reduction Techniques" about algorithm design strategies and complexity analysis and performance optimization. The lecture delivered by an expert in the field provides important insights into both theoretical and practical aspects of algorithm development.

Objectives

- Introduce participants to reduction techniques for transforming complex computational problems, enabling efficient problem classification and analysis.
- Develop a clear understanding of NP-Completeness, equipping participants to identify NP-complete problems and apply reductions to demonstrate computational intractability.

Outcomes

- **Enhance Understanding:** To impart a clear understanding of reduction techniques and NP-completeness, including their significance in classifying computational problems.
- **Develop Analytical Skills:** To strengthen participants' ability to perform polynomial-time reductions and analyze the computational complexity of decision problems.
- **Promote Problem-Solving:** To encourage algorithmic thinking in identifying NP-complete problems and evaluating the feasibility of their solutions.
- **Expert Insight:** To provide exposure to real-world applications and research directions related to intractable problems through insights from an experienced professional.

Topics to be covered

- + NP - Completeness
- + Reduction Techniques

Intended Participants

Students of CBIT

Resource Persons



Sri Mohammed Abdul Bari Garu

Professional Programmer and Educator
Instructor Partner at Udemy

GUEST LECTURE REPORT

Department: Artificial Intelligence & Data Science

Institution: Chaitanya Bharathi Institute of Technology (CBIT), Hyderabad

Topic: Design and Analysis of Algorithms -

Date of Lecture: 15-04-2025

Speaker: Mr. Abdul Bari – Professional Programmer and Educator

Mode: Offline

Venue: Assembly Hall

organizing faculty members:

1. Dr. Sheena Mohammed, Assistant Professor, AI & DS
2. Dr. S Shoba Rani, Assistant Professor, AI & DS

Participants: B.E IV Sem AI&DS/IT/CET students of all the sections.

Objective of the Guest Lecture:

- Introduce participants to reduction techniques for transforming complex computational problems, enabling efficient problem classification and analysis.
- Develop a clear understanding of NP-Completeness, equipping participants to identify NP-complete problems and apply reductions to demonstrate computational intractability.

Speaker Profile:

Mr. Abdul Bari is a renowned educator with over 20 years of experience in teaching and programming. He is widely followed for his instructional videos on algorithms, which are highly rated and followed by students worldwide. He is also an instructor partner at Udemy with more than 399,000 learners and over 117,000 reviews.

Key Highlights of the Session:

- Simplified explanation of classifications: P, NP, NP Hard, NP Complete.
- Real-time examples of Clique and Vertex Cover Problems.
- Guidance on how to write non-deterministic algorithms for writing NP Complete Solutions.
- Interaction with students through Q&A and conceptual quizzes.

Student Feedback:

The session was highly appreciated by the students for its clarity, depth, and the engaging teaching style of Mr. Abdul Bari. Many students expressed that the lecture helped them develop a better understanding of algorithms and its practical implications in coding and development.

Outcome of the Lecture:

- Enhance Understanding: To impart a clear understanding of reduction techniques and NP-completeness, including their significance in classifying computational problems.
- Develop Analytical Skills: To strengthen participants' ability to perform polynomial-time reductions and analyze the computational complexity of decision problems.
- Promote Problem-Solving: To encourage algorithmic thinking in identifying NP-complete problems and evaluating the feasibility of their solutions.

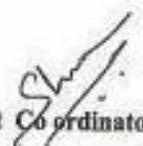
- **Expert Insight:** To provide exposure to real-world applications and research directions related to intractable problems through insights from an experienced professional.

Acknowledgment:

We extend our heartfelt thanks to Mr. Abdul Bari for taking the time to share his knowledge, to Dr. P.V Narsimhulu - the Principal, and Dr. K. Radhika - Head of the Department AI&DS for approving and supporting the organization of this lecture.

Pictures




Event Coordinator


HoD, AI&DS.