

PLACEMENT BROCHURE

2025-26 —————

COMPUTATIONAL ENGINEERING

IIT HYDERABAD



What's inside?

1. About IIT Hyderabad
2. Program Overview
3. Message from HoD
4. Curriculum
5. Admission & Demographics
6. Skills
7. Projects
8. Why Recruit Us?
9. Past Recruiters
10. Contact Us



About IIT Hyderabad

The Indian Institute of Technology Hyderabad (IITH) is a premier institute known for its strong emphasis on research, innovation, and interdisciplinary learning. Offering a wide range of undergraduate, postgraduate, and doctoral programs, IITH empowers students through a flexible academic structure, cutting-edge research, and strong industry connections.

The institute fosters entrepreneurship through specialized programs and close collaboration with industry leaders. A unique partnership with Japanese institutions has further enriched IITH's academic and infrastructural development, contributing to its global outlook.

IITH provides a vibrant ecosystem that encourages intellectual growth, creativity, and socially relevant innovation. Ranked 8th in India by the National Institutional Ranking Framework (NIRF), the institute continues to inspire future leaders in science, technology, and beyond.

Vision

IITH will be the cradle for inventions and innovations. It will advance knowledge and scholarship to students in science, technology and liberal arts, and equip them to handle the challenges of the nation and the world in the 21st century.

Mission

To be recognized as ideators and leaders in higher education and research, and to develop human power with creativity, technology and passion for the betterment of India and humankind

Core Values

- Innovation and Invention
- Intellectual Growth
- Quality Education
- Inspiration and Leadership
- Sustainability and Relevance





Program Overview

BTech in Computational Engineering – IIT Hyderabad

Launched in 2021, this is India's first undergraduate program tailored to meet the computational demands of modern industry.

Why Computational Engineering at IITH?

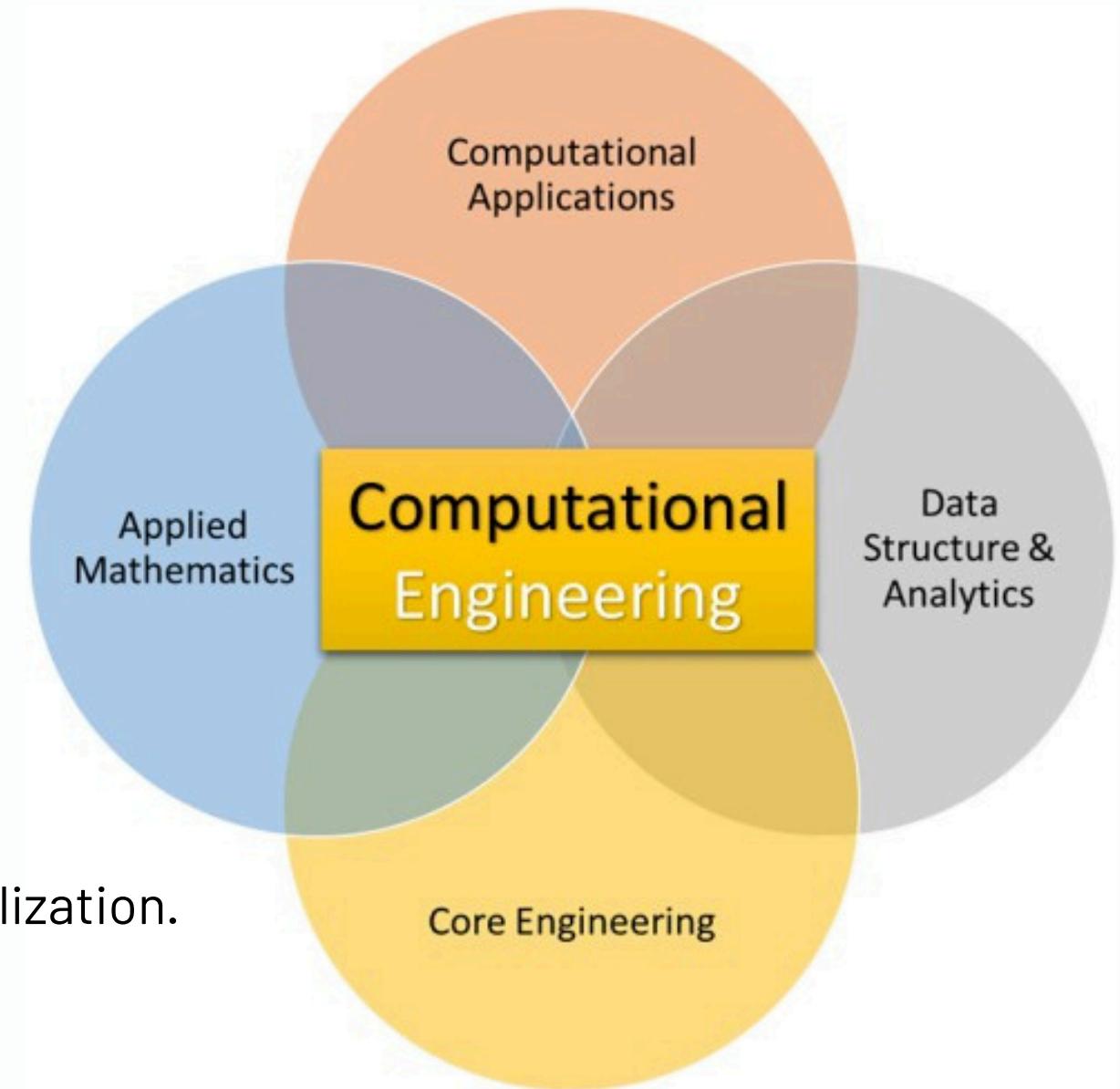
- Bridges traditional engineering with advanced computing, AI, and automation.
- Aligned with Industry 4.0 and digital transformation needs.
- Designed to build engineers fluent in both core engineering and computational tools.

Program Highlights

- Interdisciplinary Curriculum based on four pillars:
 - Applied Mathematics
 - Core Engineering
 - Data Structures & Analytics
 - Computational Applications
- Key Skills Developed:
 - Scientific computing, machine learning, optimization
 - Numerical methods, simulations, hardware description languages
- T-shaped Learning: Strong foundational breadth with options for computational specialization.

Career Readiness

- Focus on real-world problem solving, digital twin creation, and systems-level modeling.
- Prepares graduates for roles in:
 - Aerospace, energy, manufacturing
 - Healthcare, finance, and data science
- Ideal for leadership in research, academia, and industry.





Message from HOD

Dear Recruiters,

I am honored to invite you to the Computational Engineering program at IIT Hyderabad.

Launched in 2021, this pioneering undergraduate program is designed to equip students with strong fundamentals in engineering alongside cutting-edge computational skills. Through a carefully structured curriculum and an emphasis on hands-on problem solving, our students are well-prepared to address modern industrial challenges.

Our graduates have secured competitive internships at leading organizations such as Google, Adobe, Siemens, and D.E. Shaw, contributing to projects spanning ML-based automation, biomedical systems, operating systems, and simulation technologies.

We foster a culture of creativity, collaboration, and critical thinking. Our students are not only technically sound but also research-oriented and ready to make meaningful contributions from day one.

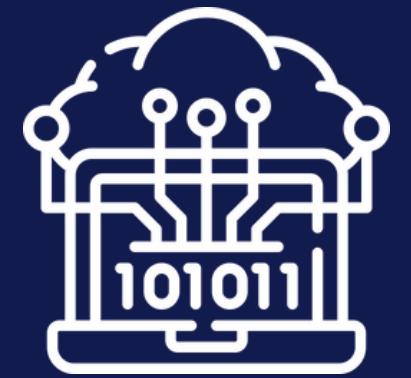
I extend an invitation to your prestigious organization to partner with our program during this placement period. I believe that our graduates will bring immense value to your teams in the form of their technical expertise, flexibility, and innovative mindset. We eagerly await the chance to interact with you and appreciate your ongoing support.



Prof. Sathya Peri
Head of Computational
Engineering



Curriculum



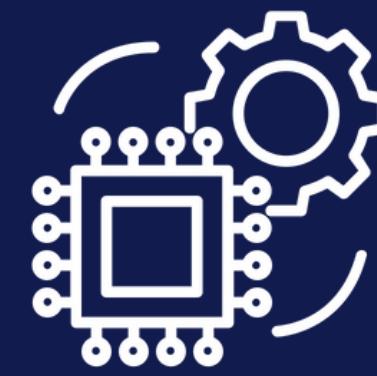
Computer Science & Programming

- Introduction to Programming
- Data Structures & Applications
- Operating Systems
- Parallel & Distributed Computing



Machine Learning & Computational Science

- Foundations of Machine Learning
- Deep Learning
- Fundamentals of Scientific Computing
- Computer-Aided Numerical Methods
- Optimization Techniques



Hardware & Systems

- Digital Circuits
- Introduction to Hardware Description Languages



Curriculum



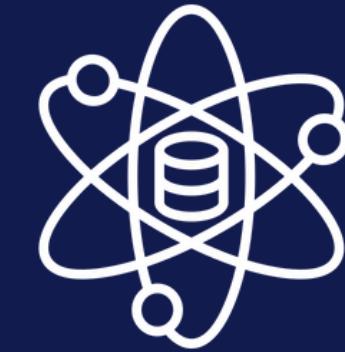
Core Engineering

- Engineering Drawing
- Engineering Mechanics
- Solid Mechanics
- Fluid Mechanics
- Heat and Mass Transfer
- Modeling and Simulation



Biotechnology & Bioengineering

- Introduction to Life Sciences
- Bioengineering
- Molecular and Cellular Biology
- Basic Bioinformatics
- Big Data Biology and Biological Databases



Materials Science

- Computational Methods in Materials Science
- Electronic Structure and Atomistic Modeling
- Materials Thermodynamics and Kinetics

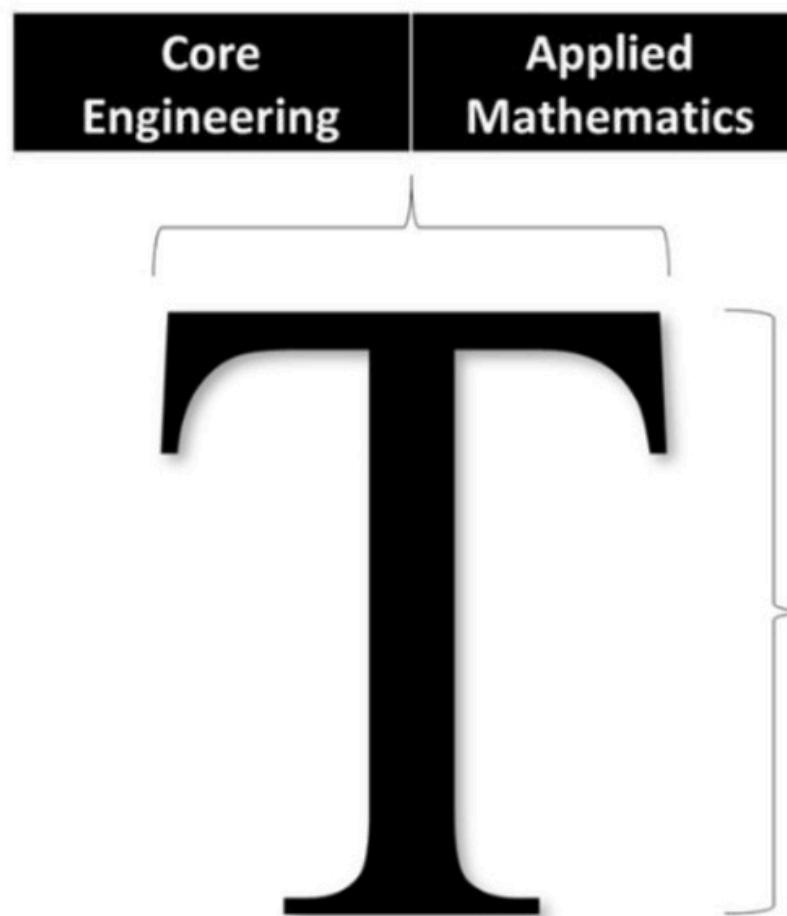


Curriculum



Mathematics

- Calculus
- Linear Algebra
- Differential Equations
- Probability
- Transform Techniques
- Complex Variables
- Statistics



Computational Methods

Scientific Computing Data Structure & Analytics Computational Applications



Admission & Demographics

Admission Statistics

Admission to B.Tech in Computational Engineering is through JEE Advanced.

Rising Interest

The steady rise in closing ranks and increasing batch strength reflect the growing demand and recognition of the Computational Engineering program at IIT Hyderabad among top JEE Advanced candidates.

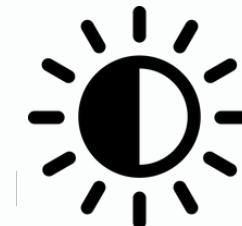
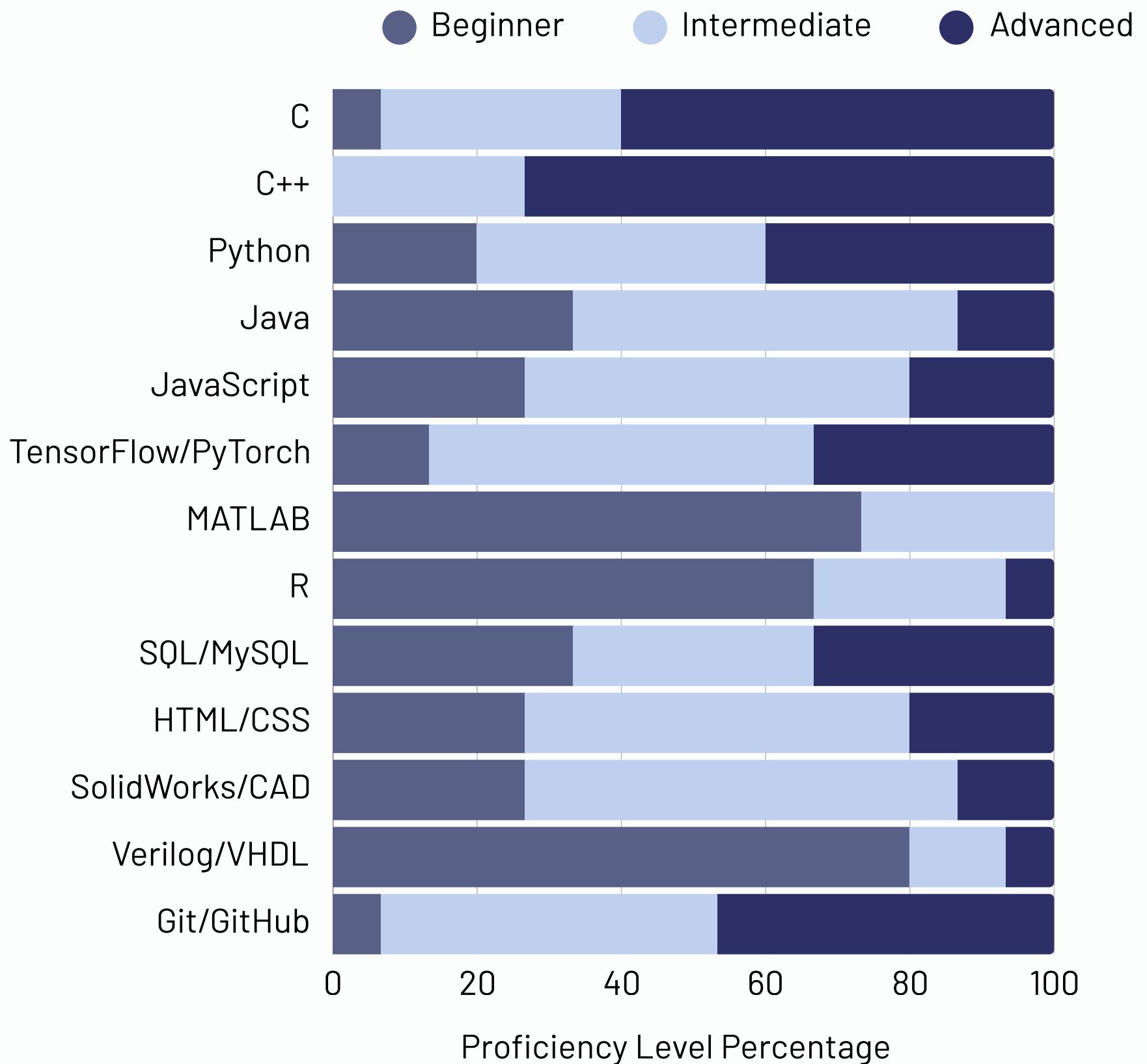
Below are the recent cutoff ranks and batch size details:

Year	Opening Rank	Closing Rank	Batch Strength
2021	1171	1383	10
2022	1212	1633	15 (Current Placement Batch)
2023	1304	1884	25
2024	1046	1790	25





Skills



Exposure to Modern Technologies

Students have demonstrated proficiency in a range of contemporary tools and languages, including Microsoft Azure, Angular, Protocol Buffers (Proto), Julia, Low-Latency C, and Kotlin. This reflects their ability to work with technologies beyond the standard academic curriculum



Real-World Software Development Experience

With strong fluency in software development, students are capable of designing and building practical applications. Their skills have been further honed through internships, providing valuable hands-on experience in solving real-world problems



Projects

Real-World Internship Projects

- **TPU Info CLI:** Metric extraction is highly relevant in industry ML workloads and performance optimization
- **Jira Issue Analytics with LLM:** Real-world use case in software project management and trend analysis
- **RAG Model for Software Testing:** Unit testing automation using LLMs is actively explored in the industry
- **Stockpile Report Generator:** Automating mining data into reports is a common industrial analytics task
- **Slope Stability Module:** Directly applicable in civil/geotechnical engineering firms
- **Toe-Crest Highwall Generation:** Specialized but valuable in the mining and geological industry
- **Fine-Tuned T5 Model for API Endpoints:** Useful for automating developer workflows in backend teams
- **Chatbot for Customer Queries:** Widely used in customer service and enterprise support
- **Peripheral Modeling and Test Automation:** Relevant to hardware/embedded systems companies
- **Frontend Labels for CRUD Operations:** Web app frontend is foundational in product development
- **Material Detection using ML:** Industrial vision and automation systems rely on this kind of ML
- **PIR Motion Signal Classification:** Applied in smart home, security, and embedded sensing industries

Systems & Applications

- **System Call Implementation and Demand Paging in xv6:** Added custom system calls and copy-on-write demand paging features to the xv6 kernel
- **Speech-to-Text Web Application:** Built a web app for real-time speech-to-text conversion using machine learning techniques





Parallel and High-Performance Computing

- Parallel N-Body Simulation (Barnes-Hut): Implemented a parallel algorithm to optimize gravitational simulations using spatial decomposition
- Delta-Stepping for the Shortest Path: Parallelized single-source shortest path computation for large graphs using OpenMP
- Parallelization of Finite Element Method (FEM): Optimized global stiffness matrix assembly using Pthreads and OpenMP
- Parallel Convex Hull Computation: Leveraged Pthreads and OpenMP for efficient parallel convex hull computation
- Parallel Mesoscale Fluid Simulation: Simulated mesoscale fluid dynamics using parallel computing techniques

Computational Science & Simulation

- Dendritic Growth via Phase-Field Method: Simulated dendritic solidification with differential analysis of interface points
- Epidemic Spread Modeling: Developed a scalable and parallel model using mathematical and computational modeling
- Image Segmentation using Cahn-Hilliard Equation: Developed models for advanced image processing using phase-separation dynamics

Machine Learning & Deep Learning

- Audio Classification using RNN, CNN, Transformers: Built deep learning models to classify audio inputs with high accuracy
- Drug Recommendation using Gene Expression and Autoencoders: Built a system to recommend medications based on gene expression data using deep learning
- Sensor-Based Human Activity Classification: Achieved 98% accuracy using CNN-LSTM models for activity recognition from sensor data
- Spoken Digit Recognition using DTW: Implemented Dynamic Time Warping to recognize spoken digits effectively



Why Recruit Us?

Placement & Internship Highlights

- The students of our program at IIT Hyderabad are distinguished by their strong academic foundation, hands-on technical proficiency, and a research-driven mindset. Shaped through a rigorous, interdisciplinary curriculum and real-world exposure, they are ready to contribute from day one.
- **100% internship rate** – Every eligible student secured an internship. Internship roles spanned Machine Learning, Software Development, Research, and Systems Engineering.
- Last Year Placement Success:
 - 8 out of 10 students placed with top-tier offers
 - **Median Package: ₹41.83 LPA**
 - **Average Package: ₹35.23 LPA**
 - These numbers reflect both the caliber and industry-readiness of our students.
- Trusted by Top Recruiters:

Internship hosts included Google, Adobe, Siemens, Amazon, Atlassian, D.E. Shaw, Bosch, Silicon Labs, American Express, Nikko Co. Ltd Japan, Crystalball.ai, SAGRI Co. Ltd, and GSoC.

Last year's PPOs and placements were offered by KLA, Accenture Japan, Thomson Reuters, Oracle, Google, and Accelequant.

What Recruiters Appreciate

- Strong programming and system design skills
- Expertise in AI, Machine Learning, and Computational Engineering
- Experience with cloud and automation technologies
- Effective communication and leadership in projects

PAST RECRUITERS

**AMERICAN
EXPRESS**



accenture

KLA Tencor



**Thomson
Reuters™**

Adobe

Google



CRYSTAL BALL

amazon

NIKKO

Carrier



Sagri

Accelquant

ORACLE



Google Summer of Code

SIEMENS

DE Shaw & Co

ATLASSIAN



BOSCH



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THANK YOU