భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

IIT HYDERABAD

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2024 BROCHURE

Welcome Message

Antony Franklin
HoD & Professor

The Computer Science and Engineering Department at IIT Hyderabad has been growing steadily since its inception in 2008, and is one of the most sought after destinations for incoming students as well as faculty. The department faculty comprises 26 faculty members with a good representation in the areas of theoretical computer science, artificial intelligence/machine learning, and computer systems areas.

Computer Science is entering an exciting era with the advent of areas like machine learning, quantum computing, cybersecurity and next generation communications. Our department is well-equipped and deeply involved in research and development in all these areas. CSE@IITH fosters an environment where students and faculty work together and contribute to these efforts. We also have deep rooted collaborations with academia, industry and government agencies in these endeavours.

This brochure provides an overview of the various activities and achievements of our department over the years. Happy reading!

Table of contents

CSE @ IITH

- A leading CSE department in the country with expertise in Theoretical Computer Science, Data Sciences, and Systems.
- Well-rounded curriculum emphasizing theoretical knowledge and practical skills.
- State-of-the-art labs and research facilities for staying updated with latest technologies.
- Vibrant research culture, interdisciplinary collaborations, and focus on innovative solutions.
- Support for entrepreneurship initiatives and successful startup launches. Priority on industry engagement through internships, guest lectures, and industry- sponsored projects.

Milestones

2008

B.Tech and M.Tech Programs Begins

2009

First Faculty Member Joins

2010

First Batch of Ph.D. Students Joins

2012

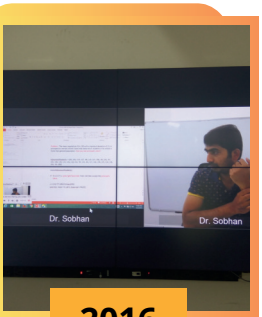
First B.Tech Batch Graduates

2014

Introduction of Fractal Academics

2015

First Ph.D. Student Graduates



2016

EMDS Begins
IIT Bhilai Mentorship Begins

2019

AI Dept , MDS Begins, IIIT Raichur Mentorship Begins

2020

M.Tech. NIS Begins

2024

Move to CSE building

Faculty

01 Antony Franklin

Ph.D.: IIT Madras
Head and Professor
Research Interests: Mobile Networks, 5G/6G, Mobile Edge Computing and Internet of Things

https://people.iith.ac.in/antony/

02 Ashish Mishra

Ph.D.: IISc Bengaluru
Assistant Professor
Research Interests: Program Verification, Program Synthesis, Programming Languages, Neurosymbolic Programming.

https://aegis-iisc.github.io/

03 Bheemarjuna Reddy Tamma

Ph.D.: IIT Madras
Professor
Research Interests: Wireless Networks, Connected and Autonomous Vehicles, Network Security and Quantum Internet

https://people.iith.ac.in/tbr/

04 C. Krishna Mohan

Ph.D.: IIT Madras
Professor
Research Interests: Computer Vision and Machine Learning

https://people.iith.ac.in/ckm/

05 J. Saketha Nath

Ph.D.: IISc Bangalore
Associate Professor
Research Interests: Kernel Methods, Statistical Learning Theory and Generative AI

https://people.iith.ac.in/saketha/

Faculty

06 Jyothi Vedurada

Ph.D.: IIT Madras
Assistant Professor
Research Interests: Compilers, Program Analysis and High-performance computing

https://jyothivedurada.github.io/

07 Kotaro Kataoka

Ph.D.: Keio University
Professor
Research Interests: Internet Architecture and Blockchains

https://people.iith.ac.in/kotaro/

08 M.V. Panduranga Rao

Ph.D.: IISc Bangalore
Professor
Research Interests: Applications of Formal Methods and Quantum Networks

https://people.iith.ac.in/mvp/

09 Manish Singh

Ph.D.: University of Michigan, Ann Arbor
Associate Professor
Research Interests: Social Network Analysis, Recommendation Systems, Data Mining and NLP

https://people.iith.ac.in/msingh/

10 Maria Francis

Ph.D.: IISc Bangalore
Assistant Professor
Research Interests: Computational Algebra, Cryptography: Pairings-based and Lattice, Communication over Blockchains

https://sites.google.com/view/maria-francis

Faculty

11 Maunendra Sankar Desarkar

Ph.D.: IIT Kharagpur
Associate Professor
Research Interests: NLP, Information Retrieval and Machine Learning

https://people.iith.ac.in/maunendra/

12 N.R. Aravind

Ph.D.: IMSc Chennai
Associate Professor
Research Interests: Algorithms and Graph Theory

https://people.iith.ac.in/aravind/

13 Nitin Saurabh

Ph.D.: IMSc Chennai
Assistant Professor
Research Interests: Computational Complexity Theory and its Connections to Algorithms, Algebra and Combinatorics

https://nitinsau.github.io/

14 Praveen Tammana

Ph.D.: University of Edinburgh
Assistant Professor
Research Interests: Networked Systems, Software Defined Networks and Programmable Data Planes

https://praveenabt.github.io/

15 Rajesh Kedia

Ph.D.: IIT Delhi
Assistant Professor
Research Interests: Computer Architecture, Embedded Systems and Digital VLSI design

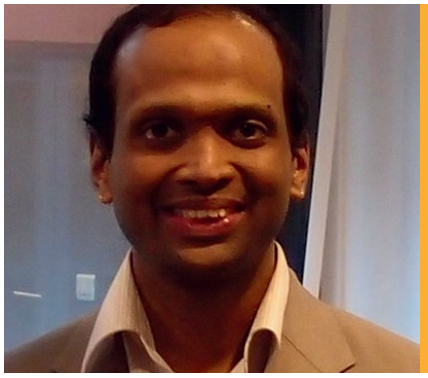
https://people.iith.ac.in/rkedia/

Faculty

16 Rakesh Venkat

Ph.D.: TIFR Mumbai
Assistant Professor
Research Interests: Research Interests: Approximation Algorithms and Complexity Theory

https://people.iith.ac.in/rakeshvenkat/



17 Ramakrishna Upadrasta

Ph.D.: INRIA and University Paris-SUD
Associate Professor
Research Interests: Compilers, Polyhedral Compilation and Program Embeddings

https://people.iith.ac.in/ramakrishna/

18 Rameshwar Pratap

Ph.D.: CMI, Chennai
Assistant Professor
Research Interests: Compilers, Polyhedral Compilation and Program Embeddings

https://sites.google.com/site/pratapprameshwaryadav/

19 Rogers Mathew

Ph.D.: IISc Bangalore
Associate Professor
Research Interests: Extremal and Probabilistic Combinatorics, Structural Graph Theory and Graph Algorithms

https://people.iith.ac.in/rogers/

20 Sathya Peri

Ph.D.: University of Texas at Dellas, Richardson, TX, USA
Professor
Research Interests: Blockchains, Parallel and Distributed Systems

https://people.iith.ac.in/sathya_p/

Faculty

21 Saurabh Kumar

Ph.D.: IIT Kanpur
Assistant Professor
Research Interests: Cyber Security, Mobile Security, Cyber Forensics, and Malware Analysis

https://skmtr1.github.io/

22 Shirshendu Das

Ph.D.: IIT Guwahati
Assistant Professor
Research Interests: Computer Architecture, Hardware Security and Emerging Memory Technologies

https://sites.google.com/view/shirshendudas/home

23 Sobhan Babu

Ph.D.: IIT Bombay
Associate Professor
Research Interests: Big Data Analytics, Graph Theory and Algorithms

https://people.iith.ac.in/sobhan/

24 Srijith P.K

Ph.D.: IISc Bangalore
Associate Professor
Research Interests: Machine Learning, Deep Learning, Vision and Language

https://sites.google.com/site/pksrijith/

25 Subrahmanyam Kalyanasundaram

Ph.D.: Georgia Institute of Technology
Associate Professor
Research Interests: Theoretical Computer Science, Graph Theory, Graph Algorithms and Combinatorics

https://people.iith.ac.in/subruk/

Faculty

26 Vineeth N. Balasubramanian

Ph.D.: Arizona State University, USA
Associate Professor
Research Interests: Machine Learning, Deep Learning, Computer Vision and Explainable AI

https://people.iith.ac.in/vineethnb/

Visiting Faculty

27 C. Siva Ram Murthy

Ph.D.: IISc Bangalore
Visiting Professor
Research Interests: Wireless Networks, Parallel and Distributed Computing

http://www.cse.iitm.ac.in/~murthy/

Adjunct Faculty

28 Kenzo Fujisue

Ph.D.: Waseda University, Tokyo Institute of Technology
Adjunct Professor
Research Interests: Web3 and Cybersecurity Policy

http://www.linkedin.com/in/kenzo-fujisue-005b1678

29 Naveen Sivadasan

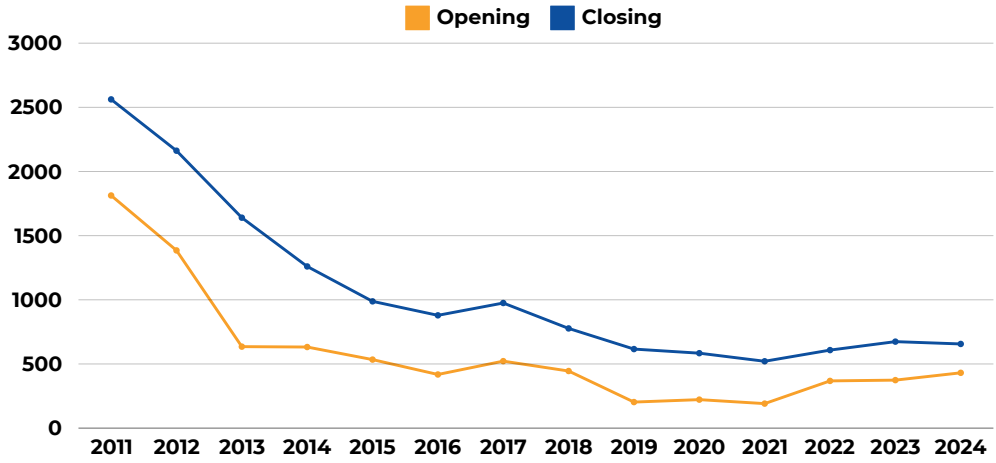
Ph.D.: Max Planck Institute for Informatics
Adjunct Professor
Research Interests: Computational Biology and Applied Algorithms

https://www.linkedin.com/in/naveen-sivadasan-b71027b2/

Academics

B.Tech. In CSE

B.Tech. In CSE department started in the year 2008 with an initial intake of 40; The current intake is 65.



JEE ranks over the years

Core courses offered in B.Tech

Semester 01

Introduction to Programming
Discrete Mathematics
Introduction to computing

Semester 02

Software Development Fundamentals
Artificial Intelligence

Semester 03

Data Structures and Algorithms
Computer Architecture
Operating Systems I
DBMS I

Semester 04

Theory of Computation
Operating systems II
Algorithms
Compilers I
DBMS II

Semester 05

Computer Networks
Compliers II
Foundations of Machine Learning

Semester 06

Software Engineering

Academics

Electives offered in the Last 5 Years

Systems

- Advanced Computer Architecture
- Advanced Computer Networks
- Advanced Compiler Optimisations
- Advanced Operating Systems for Pervasive Computing
- Basics of Blockchains: Distributed Computing Perspective
- Compiler Optimizations
- Computer and Network Security
- Concurrency Control in Transactional Systems
- Data Center Networking
- Distributed Computing
- Distributed Systems
- Hardware Architecture for Deep Learning
- Introduction to Wireless Networks
- Network Engineering
- Networked Wireless Systems
- Parallel and Concurrent Programming
- Software Defined Networking
- Topics in Compiler Optimizations
- The Blockchain: Theory and Practice
- Wireless Networks and Security

AI, ML and Data Science

- Advanced Topics in Data Management
- Algorithmic Techniques for Massive Data
- Bayesian Data Analysis
- Computational Topology: Theory and Applications to Data Analysis
- Computer Vision
- Data Mining
- Deep Learning for Vision
- Introduction to Statistical NLP
- Neural Networks
- Numerical Linear Algebra for Data Analysis
- Pattern Recognition
- Predictive Analytics and Knowledge Discovery
- Probabilistic Models for Machine Learning
- Soft Computing
- Text Processing and Retrieval
- Visual Recognition

Theory

- Algebra for Computer Science
- Analysis of Boolean Functions
- Applications of Markov Chains
- Approximation Algorithms
- Circuit Complexity
- Communication Complexity
- Computational Complexity
- Computational Number Theory and Algebra
- Convex Optimization
- Cryptography
- Formal Methods in Computer Science
- Graph Theory
- Linear Optimization
- Probabilistic Model Checking
- Probability in Computing
- Quantum Computing
- Quantum Cryptography
- Sketching and sampling for massive data
- Tensors: Techniques, Algorithms and Applications

Academics

M.Tech. in CSE

01 M.Tech

- Started in the year 2008
- 24 Credits of course work
  - Option A: + 24 Credits of Thesis
  - Option B: +12 Credits of Capstone project + 9 Credits of Course work
- 2 Years M.Tech program
  - MoE Sponsored
  - Self Sponsored
- 3 Years M.Tech.program (Option A)
  - Project Sponsored

Courses offered

- Advanced Data Structures and Algorithms
- At least two electives each from:
  - Data Science
  - Systems
  - Theory

02 M.Tech. in Data Science

- Started in the year 2015 as an online program
- Exclusively for working professionals
- Self-paced course:3-4 years
- 24 Credits of course work + 24 credits of capstone project
- Executive M.Tech. in Data Science (EMDS) degree with 24 credits of coursework

Courses offered

- Mathematical Foundations of Data Science
- Image and Video Analytics
- Foundations of Machine Learning
- Applied Machine Learning
- Probabilistic Models for Machine Learning
- Bayesian Data Analysis
- Theory of Learning and Kernel Methods
- Natural Language Processing
- Information Retrieval
- Deep Learning
- Programming Models for Multi-core and GPU Architectures
- Scaling to Big Data
- Internet of Things

Academics

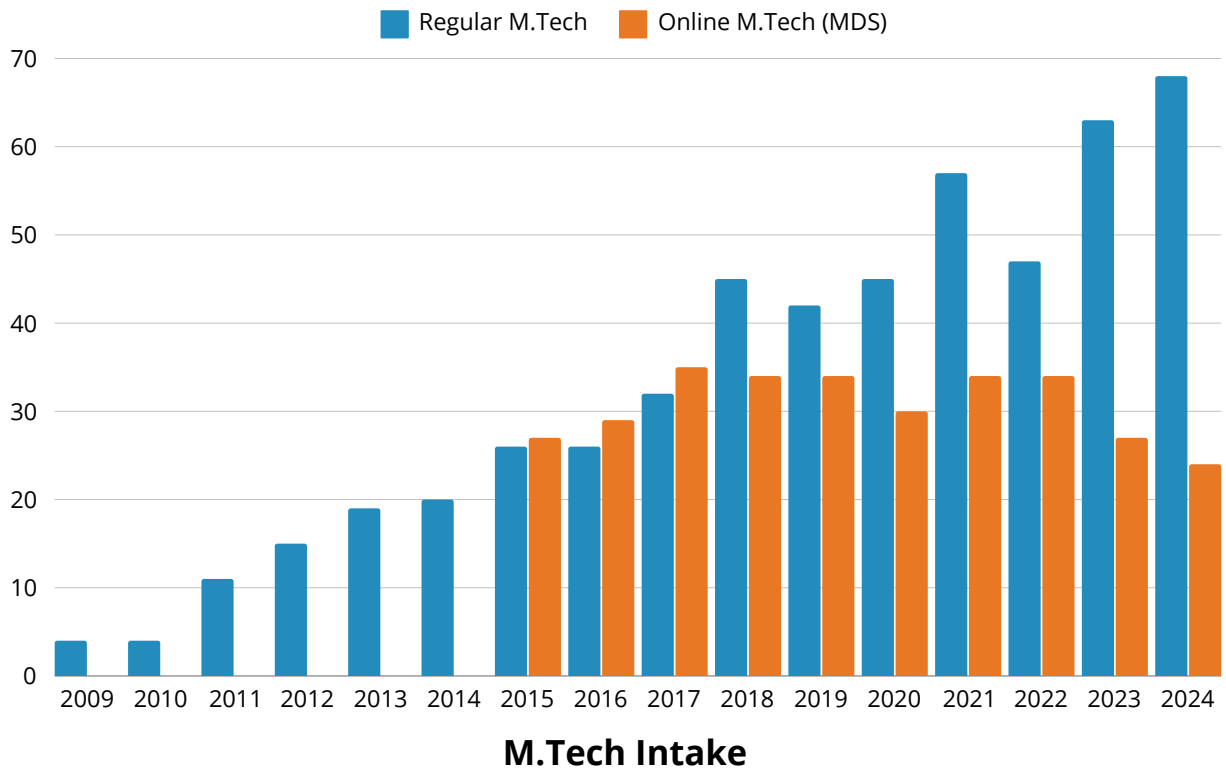
M.Tech. in CSE

03 M.Tech in Network and Information Security

- Started in the year 2008
- 24 Credits of course work + 24 credits of thesis
- 2 Years M.Tech program
  - MoE Sponsored
  - Self Sponsored
- 3 Years M.Tech.program
  - Project Sponsored

Courses offered

- Advanced Data Structures & Algorithms
- Advanced Computer Networks
- Cryptology
- Topics in Wireless Networks
- Internet of Things
- Wireless Networks & Security
- Topics in Networks
- Networked Wireless Systems
- Advanced topics in Cryptology
- Quantum Cryptography
- Basics of Blockchains: Distributed Computing Perspective
- Software Defined Networks
- Data Center Networking
- Applied Machine Learning
- The Blockchain: Theory and Practice



M.Tech Intake

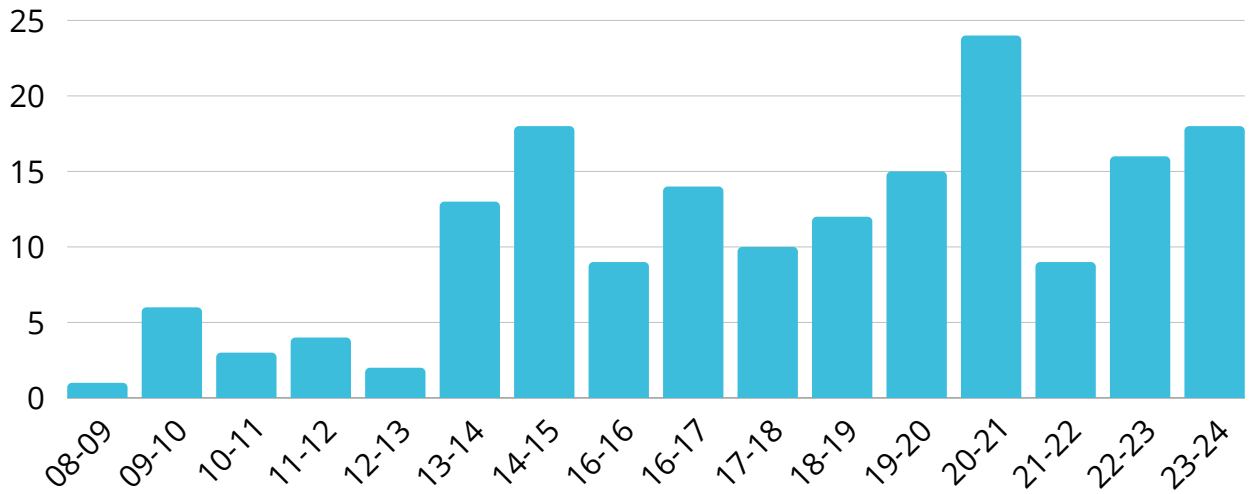
Academics

Ph.D. Program

- Core Course: Advanced Data Structures and Algorithms
- 12 credits of course work
- 24 credits for direct Ph.D. Program
- Comprehensive Exam
- Research Proposal Seminar

Stream-wise Distribution Of Scholars

Stream	Graduated Students	Current Students
Theory	6	15
Systems	24	39
AI / Machine Learning	35	28



Year Wise PhD Intake

Academic Highlights

Firsts

- First Online M.Tech. Program for Data Science in the country
- Seeding of the first AI department and AI undergraduate program in the country

Student Credits

- 116000 (from 2010 to 2024)
- About 7900 student credits per year
- About 300 student credits per Instructor per year (Calculated at peak faculty strength of 26)

Mentorship of Institutes of National Importance

- Department of CSE, IIT Bhilai: 2016 - 2018
- Department of CSE, IIIT Raichur: 2019-2023
- Department of CSE, CUK, Kalaburagi: 2018 - 2019

Institute Teaching Awards for Department Faculty

- Maunendra Desarkar
- C Krishna Mohan
- Karteek Sreenivasaiah
- Vineeth N Balasubramanian
- Rakesh Venkat
- Rogers Mathew
- Praveen Tammana

Institute Research Excellence Awards

- C Krishna Mohan
- Vineeth N Balasubramanian

Joint PhD Programs

- Swinburne University, Australia
- Deakin University, Australia
- IDRBT, Hyderabad

Research

Broad Research Areas

01 Theory

- Algorithms
- Computational Complexity
- Graph Theory
- Combinatorics
- Formal Methods
- Quantum Computing

02 Systems

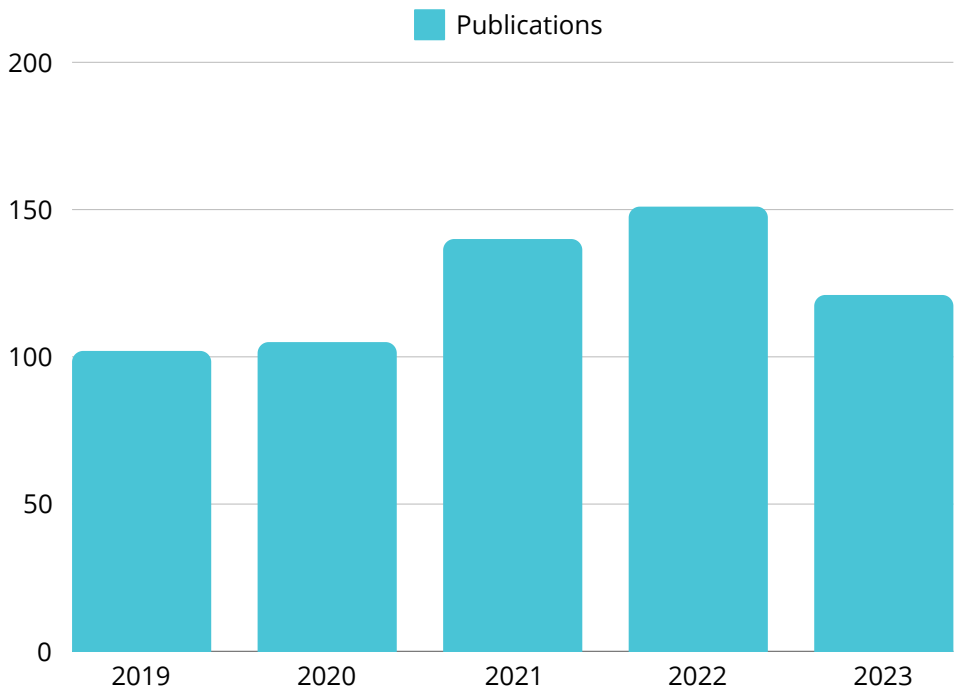
- Computer Networks
- Compilers
- Architecture
- Distributed Systems
- Blockchains
- Cyber Security

03 AI/ML & Data Science

- Big Data
- Computer Vision
- Natural Language Processing
- Social Media Analytics
- Theoretical AI/ML
- Applications

Publications

Publications in the last five years

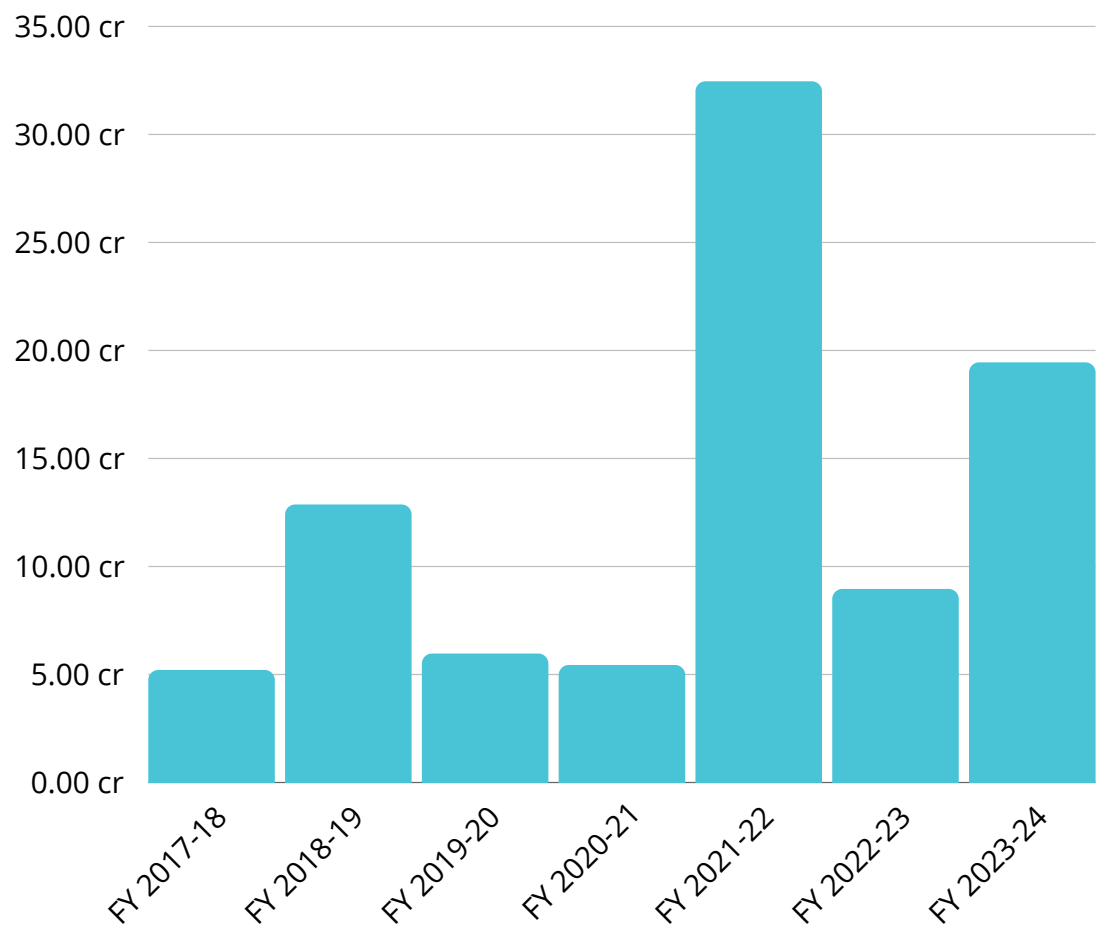


Source : DBLP

Venues

Project Funding

Yeas-Wise Funding



Some Funding Agencies

DRDO DEFENCE R&D ORGANISATION MINISTRY OF DEFENCE

iNSERB DIA

सी डैक CDAC

Ministry of Electronics and Information Technology
Government of India

Collaborations

We take pride in fostering a culture of global collaboration and academic excellence. These partnerships have enabled us to engage in impactful research projects.

National Collaborations

International Collaborations

Industry Collaborations

Awards and Recognitions

Scientific Awards and Recognitions

Best/Distinguished Paper Awards

- International Conference on Communication Systems and Networks (COMSNETS), 2022
- ACM Joint International Conference on Data Science & Management of Data (CODS-COMAD), 2022
- ACM SIGPLAN International Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA), 2021
- Workshop on Causality in Vision, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021
- International Computing and Combinatorics Conference (COCOON), 2020
- International Workshop on Graph-Theoretic Concepts in Computer Science (WG), 2020
- IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI), 2018
- International Conference on Communication Systems and Networks (COMSNETS), 2018
- International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), 2018
- ACM SIGCOMM Symposium on SDN Research (ACM SDN), 2018
- International Conference on Networked Systems (Netys), 2018
- IEEE International Telecommunication Networks and Applications Conference (ITNAC), 2016

Competitive Research GrantAwards

- Sony Research Award
- Qualcomm Faculty Award
- AMD Faculty Award
- Microsoft Academic Partnership Grant Award
- Google exploreCSR Grant Award
- Google Research Scholar Award
- IBM Shared University Research Award
- Verisk AI Faculty Research Award
- IBM Research Academic Award

Other Research Awards

- iKDD Outstanding Doctoral Dissertation Award, 2022
- Research Excellence Award, IIT-Hyderabad, 2022-23
- Senior Membership in AAAI (one of 15 globally selected), 2023
- Best Reviewer Awards, IJCAI 2023, ICLR 2021, ECCV 2020, CVPR 2019, OOPSLA 2019
- NASSCOM AI Gamechangers Award (DL Algorithms/Architecture category), Winner and Runner-up, 2022

Awards and Recognitions

Academic Awards and Distinctions

Visiting Fellowships

- Fulbright-Nehru International Education Administrators Seminar Fellowship, 2023-2024
- Mottez Fellowship (Host: Institute Henri Poincare, Paris, France), 2023
- Fulbright-Nehru Academic and Professional Excellence Fellowship (Host: Carnegie Mellon University, Pittsburgh, USA) 2022-23
- Visiting Scholarship, Erasmus Mundus - PIXNET (Host: Scuola Superiore Sant'Anna, Piza, Italy), 2020-22
- ASEM Duo Fellowship (Host: Sorbonne University, Paris, France), 2020

PhD Fellowships obtained by Students

- Google Ph.D. Fellowship
- TCS Ph.D. Fellowship
- Intel Ph.D. Fellowship
- Reliance Foundation Fellowship
- PMRF Fellowship
- Microsoft Research India PhD Award
- Qualcomm Innovation Fellowship

Awards obtained by students

- IDRBT Doctoral Colloquium
- Indo-Canadian Shastri Student Research Fellowship
- S N Bose Fellowship
- Honda YES Fellowship
- Viterbi Fellowship
- Google AI Residency
- Facebook AI Residency
- Fulbright-Nehru doctoral research fellowship

R & D Infrastructure

Research Labs

NeWS Lab

- Networked Wireless System
- Lab Research Areas:
  - 5G Test bed, Converged Cloud RAN, 5G: Multi-access Edge Computing, Intelligent Transportation Systems: 5G NR V2X, C-V2X, AI for Cybersecurity

CANDLE Lab

- Computer Architecture and Machine Learning
- Lab Research Areas:
  - Autonomous Driving Vehicles, Computer Architecture, Processor Architectures for ML, Neural Network Accelerators, VLSI, High-Performance Computing

PRANET

Practical Networking and Blockchain

- Research Areas:
  - Blockchain
  - Software Defined Networking Digital Twin Networks

Compilers Lab

- Scalable Compilers for Heterogeneous Architectures Group
- Research Areas:
  - Polyhedral Compilation Code Compliance & Security Machine Learning for Compilers

R & D Infrastructure

Research Labs

Natural Language and Information Processing (NLIP)

- Responsible NLP: Multilinguality and Low-resource languages, Hate Speech Detection
- Controlled Langauge Generation
- Large Language Models

Industry Collaborations with Microsoft, Honeywell, Accenture, and several startups.

VIGIL Lab

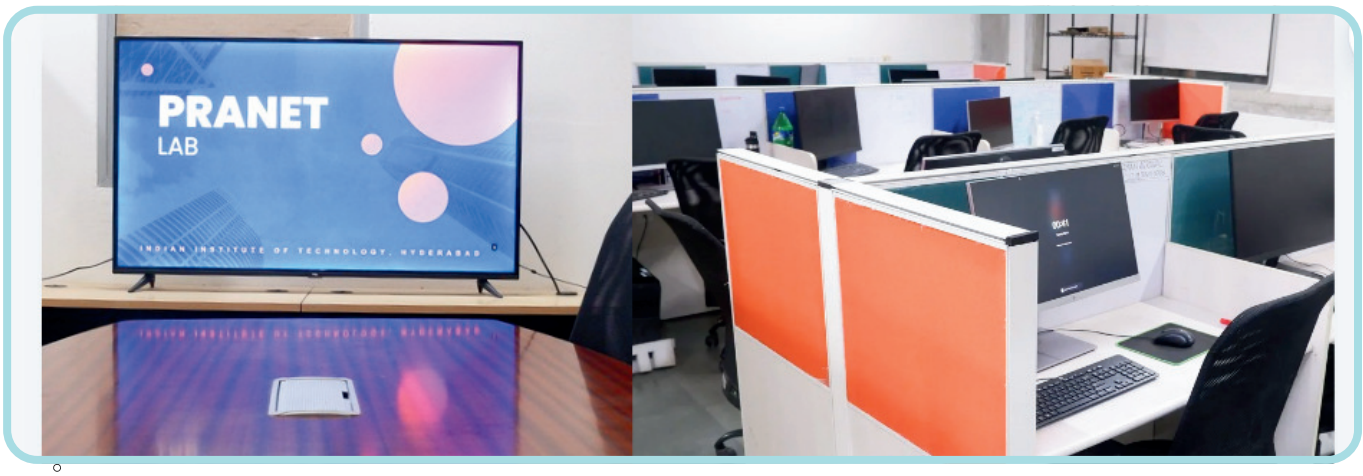
- Visual Learning and Intelligence
- Lab Research Areas:
  - Vision for Autonomous Driving, Security for Machine Learning
  - Medical Imaging Segmentation, Radar Navigation using ML ML for Domain Adaptation

Machine Learning and Vision Group

- Exploring Connections between Adversarial Robustness and Explain ability (***Google*** Research Scholar Award, ***Microsoft*** Research Postdoctoral Research Grant)
- Learning with Weak Supervision for Autonomous Vehicles (Funded by ***Intel*** and ***SERB IMPRINT*** program)
- Explainable Deep Learning (Funded by ***Adobe***)
- Deep Generative Models: Going Beyond Supervised Learning (Funded by ***Intel***)

Bayesian Reasoning And Inference (BRAIN)

- The BRAIN research group, led by Prof. Srijith P K, specialises in probabilistic ML, DL, Bayesian learning, Continual Learning, Domain Generalization, Causality and NLP.
- Funding Agencies: Sony, JICA, Intel, Accenture, SERB
- Recent Achievement: Prof. Srijith received the Young Researchers
- Scientist Award from Sony Research 2023



ICT Infrastructure

Cluster & Undercloud

SLURM

The CSE department has taken a significant stride in optimizing its server infrastructure by developing Slurm, an in-house cluster management and job scheduling system. This innovative solution has been seamlessly integrated, with an impressive 95% of the department's servers now operating within the Slurm ecosystem.

MAAS (Metal as a Service)

Simplify CSE Infrastructure Management with MAAS (Metal as a Service). Effortlessly deploy, manage, and scale Ubuntu-based servers in the Data Center. Achieve efficient resource utilization and seamless scalability with zero-touch provisioning.

- Automated OS installation, static IP, DNS setup on servers
- Automated hardware health monitoring and logging
- Onboarded servers web interface

Moodle

Moodle (Modular Object-Oriented Dynamic Learning Environment) is our robust, versatile platform designed to enhance the learning experience for students and faculty at the CSE department of IITH. Moodle empowers our community by providing a centralized space for all course-related activities, ensuring a seamless and efficient academic journey.

Department Staff

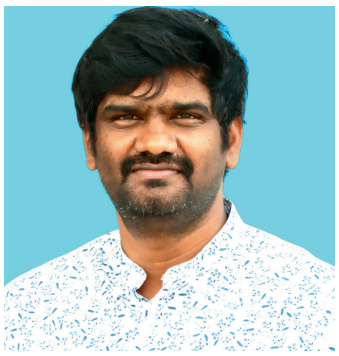
Technical Staff

N. Syamala Rao
Sr.Technical Superintendent

T Vijaya Chakravarthi
Sr.Technical Superintendent

Nikith Reddy Peddasheri
Technician

Sunitha Maloth
Technician



Praveen Kumar Gaddam
Junior Technician

Shiva Kumar Reddy
Junior Technician

Kiran Kumar Kavali
Junior Technician

Gandepalli Surya Prakash
Assistant

Hannah Daisy
Junior Assistant

Distinguished services and day-to-day departmental activities are overseen by our CSE technical staff and admin staff, with nine dedicated team members handling all related tasks and responsibilities.

Societal Impact

Projects with Societal Impact

Live Analysis of UPI Payments in NPCI:

Data mining-based live analysis of UPI payments in collaboration with the National Payments Corporation of India (NPCI). We are proud to be a part of one of the most exciting contributions of India towards the world's digitization.

Analyzing and Improving Urban Transportation:

The M2Smart (Smart Cities for Emerging Countries based on Sensing, Network and Big Data Analysis of Multimodal Regional Transport System) is a joint research project under Japan's SATREPS program between IIT Hyderabad, Nihon University, Japan, Nagoya Electric Works Co. Ltd, Tokyo Institute of Technology, and Ahmedabad Municipal Corporation (AMC). The project looked into development of technologies for collecting, processing, modelling and providing traffic information in the IITH campus using various sensing technologies,wireless communication technologies and big data processing techniques, developed by various approaches in the testbed, generated by integrating these technologies. It also considered the system to promote multimodal by providing traffic information to users and at the same time to improve traffic management, and confirm policies to implement this system socially through field experiments in Ahmedabad city. This project installed sensors and monitored traffic-related parameters near IIT Hyderabad campus and in Ahmedabad city longitudinally, and made several contributions to improving traffic flow in both these urban areas. Vision-based systems to detect unique traffic violations and road crimes (such as wearing of helmet and chain-snatching) were also developed.

Disaster Management Systems:

As one of the earliest efforts in the unique Indo-Japan partnership manifested in IIT-Hyderabad, the DISANET (Information Networks for Natural Disaster Mitigation and Recovery) project focused on mitigating the after-effects of natural disasters. This project resulted in the development of web portals and apps to mitigate disaster aftereffects and enable quick recovery and support. Our faculty's social media aggregator was also used during the Kerala floods of 2018 to collate resources and support for the flood victims.

Tax Fraud Analytics:

Live ongoing implementation of data science-based methods to analyze taxation data, and highlight cases of potential fraud. This effort has led to savings of over several crores of rupees to the state exchequer.

Societal Impact

Projects with Societal Impact

Institution Mentoring:

IIT-Bhilai: Responsible for initial set up of curricula, teaching, campus development, computer centre, and faculty recruitment from inception, 2016-18.
IIIT-Raichur: Responsible for complete management of the CSE department including curricula, teaching, faculty recruitment, student mentoring from 2022-2023.
Central University of Karnataka, Kalaburagi: 2018-2019, mentored the CSE Department.

Towards 5G,V2X, and Beyond:

Our faculty members are involved in the “Indigenous 5G Testbed” project funded by Dept. of Telecom (DoT), Govt. of India and "V2X Pilot Study" project funded by Suzuki Motor Corporation, Japan. Various network functions of 5G Core network are developed as per 3GPP specifications with network intelligent for delivering highly available, reliable, resilient, and secure slice services for diverse use cases of 5G and beyond. The IITH 5G Core is also tested for interoperability with both in-house and open-source 5G base stations and smartphones. Vehicles fitted with Vehicle-to-anything (V2X) radios and ITS apps are used to demonstrate various benefits of ITS technology for road users in India.

Data Science for Agriculture:

Our faculty members have also been involved in an Indo-Japan multi-institutional collaboration to collect, analyze and deploy data science-based technology solutions for agriculture. This effort, which includes the P Jaishankar Telangana State Agricultural University, has resulted in a longitudinal collection of sensor data in rice paddy and maize farms with different genotypes and phenotypes. We have also actively contributed to the AI for Agriculture challenge organized by NASSCOM and the Telangana government.

Academic Information Management System:

The Academic Information Management System (AIMS) system that ran IIT-Hyderabad's ecosystem including academics, reporting, human resource management and infrastructure management for a large part of the last decade, was a home-grown software created by a CSE faculty from design to deployment as part of an entrepreneurial effort. Not to forget, this system has also been deployed at other academic institutions across the country!

Conferences and Workshops

Conferences and Workshops Organised

- General Co-chairs and Program Co-chairs of National Conference on Communications (NCC), Mar 2018 (held at IIT-Hyderabad).
- Organized IndoSys 2018
- Organised FM Update 2019
- Organised INDOQUANT 2019
- Organised TEQIP program on Advanced Algorithms between November-December 2020.
- Organised VAIBHAV Summit 2020 CPS Vertical
- Lead co-organizers of CSE and AI tracks in Vaibhav Summit (an effort of NITI Aayog invited global experts to discuss on promoting research in India), Oct 2020.
- Organized the 6th International CALDAM 2020 at IIT-Hyderabad, Feb 2020.
- General Co-chair and organizers of Asian Conference on Machine Learning, Dec 2022, Hyderabad (first ACML to be brought to India).
- Organised ACM India Summer School on Algorithmic Techniques in Computational Biology, Jun 2023 (held at IIT-Hyderabad).
- Organised ACM India Summer School on Programming Language Analysis and Optimisations, Hosted by: IIT Hyderabad (online)
- Organised ACM ROCS 2024
- Organised ACM-W India Grad Cohort 2024
- Organised Intel Unnathi AI everywhere 2024
- ICDCN-2025 (Coming Soon!)

Recent Outreach events

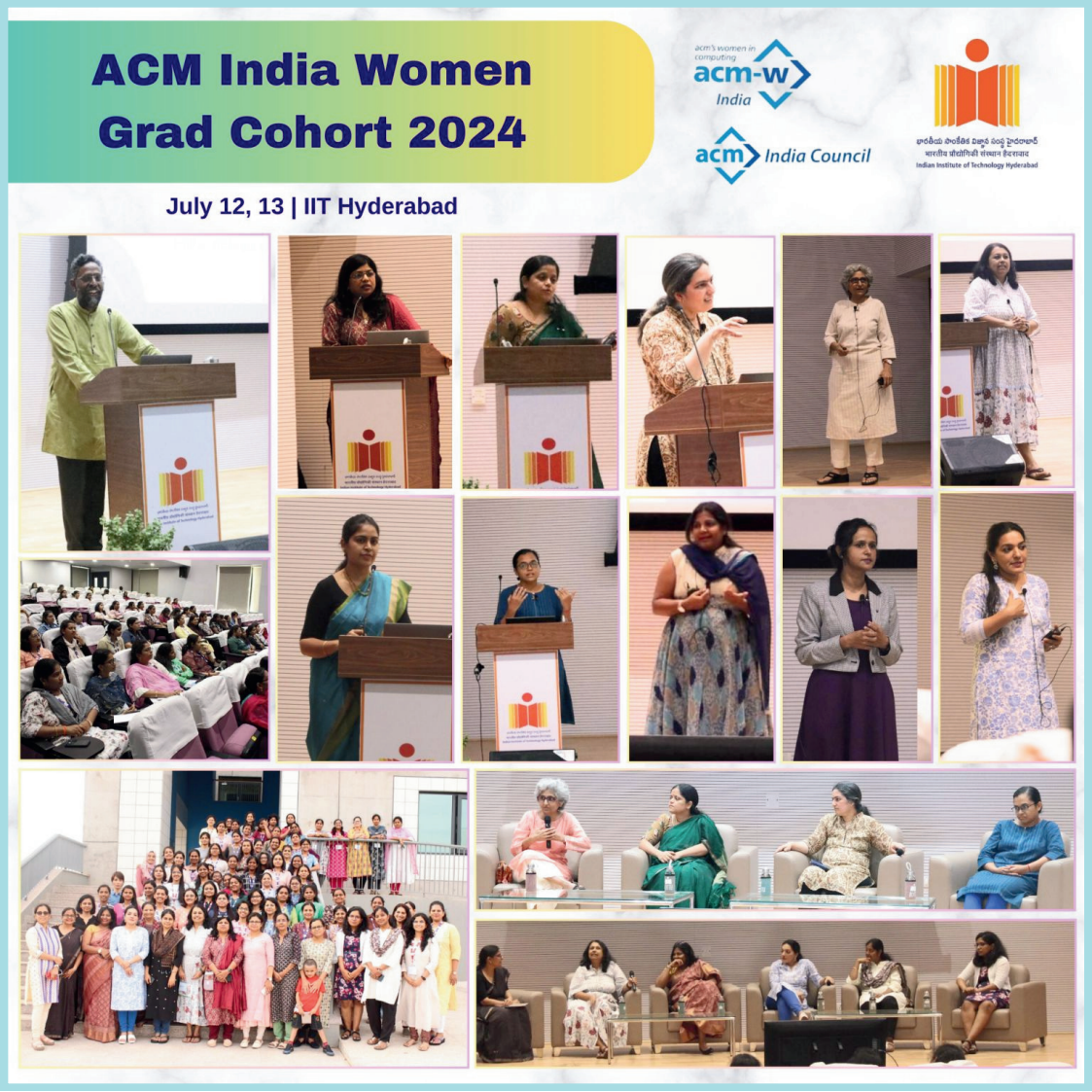
ACM ROCS

CSE IITH conducted the ACM workshop on Research Opportunities in Computer Science (ROCS) to raise awareness about the research opportunities available in the growing field of computer science broadly and also specifically in India. There were expert talks covering research opportunities in broad themes of Computer Networks, Computer Architecture, Cryptography, Responsible and Safe AI, Machine Learning, Theoretical Computer Science, Programming Languages, and Compilers. The event was a huge success with about 200 participants (UG/PG students and a few faculty members) attending the workshop for the whole day.

Recent Outreach events

ACM-W India Grad Cohort 2024

CSE IITH organized the ACM-W India Grad Cohort 2024 event at the Indian Institute of Technology Hyderabad from July 12 to 13. This event aimed to connect Indian women graduate students in computing with eminent female researchers from academia and industry. Over the course of these two days, participants engaged in inspiring talks, insightful panel discussions, and valuable networking opportunities, making it a time of significant learning and inspiration.



Placements

Percentage of Registered Students Placed

B.Tech

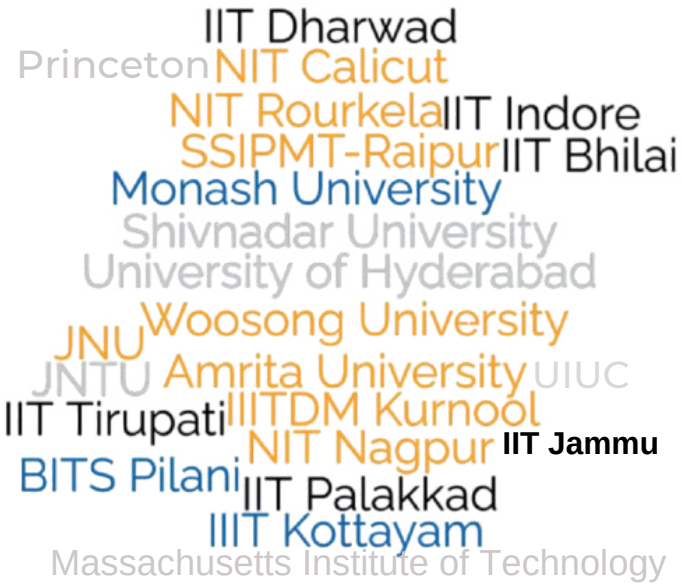
M.Tech

PAST RECRUITERS

Alumni

Our Ph.D. Graduates have gone on to remarkable affiliations, showcasing the impact of their research and the quality of education they received at our institution. Here are some of the notable affiliations of our graduated Ph.D. students.

Alumni in Academia



Alumni in Industry

Alumni in PostDoc Positions


ACML
Asian
Conference on
Machine Learning
2022
December

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