FP Launchpad

CyStar Centre for Cybersecurity, Trust and Reliability
Indian Institute of Technology Madras

EXEBIT

EVENTS BROCHURE

CS EXEBIT 2026

COMPUTER SCIENCE ASSOCIATION
IIT MADRAS

The Computer Science Association (CSA) of IIT Madras is dedicated to work for development and engagement of the Computer Science Students. Through activities like Exebit, the annual departmental fest, we aim to bridge the gap between academia and industry, by encouraging students to put their knowledge to use by solving real-world problems. We also aims at making the future engineers understand what is the current trend in the industry and where can they put their skills to use for creating cutting edge technology.

Exebit 2025 at the Indian Institute of Technology Madras, marked a significant milestone as a two-day long student run annual departmental fest, attracting many students from various colleges across the country.

The fest showcases the impact of Computer Science in the current era through workshops, tech talks from experts, competitions and poster presentations of various projects and interaction with industries while fostering long-lasting connections among participants.

WALKTHROUGH EXEBIT

Workshops

Professor Talks

Hackathon

Contests

Hackathon Presentation

Industry Exposure

Fun Stalls

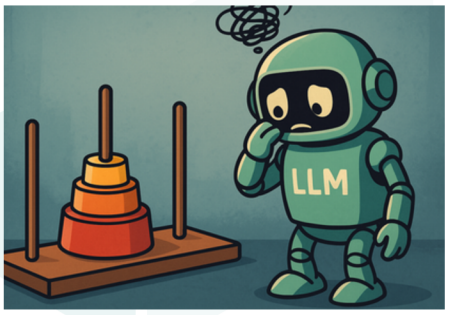
WORKSHOPS

Intro to OCaml

The session begins with a short talk on the evolution of OCaml as a modern functional language, followed by a 2-hour guided coding workshop with beginner-friendly exercises. Participants can work at their own pace with support from experienced OCaml practitioners. No prior functional programming experience is required just bring your laptop.

Learn more about FP launchpad - https://fplaunchpad.org

When LLMs Stop Thinking



Join in for a forensic investigation into the mind of transformers - the backbone of our beloved LLMs From attention sinking on mysterious tokens to reverting refusals - the session will demonstrate some cool tricks from AI interpretability research!

PS: bring your laptops to manipulate them yourself !

Shivanshu Kumar
[Third year CS Undergrad]

WORKSHOPS

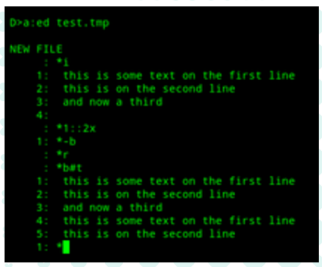
Introduction to Theorem Proving using LEAN

Have you ever wondered what it takes to provably show that your program has no bugs? Join in, then, on a journey to understanding Lean, an industry standard theorem prover used by mathematicians and computer scientists alike. Lean has been used to formally verify several important theorems. We will cover the basics of the language, as well as a few fun ideas from verification. Bring your laptops to join in and try some proofs for yourselves!

Pranav Ramesh
[Final year CS Undergrad]

From ed to Wayland: The Evolution of the Linux Desktop Environment

Unix and Linux have a long history of being text-first. Over time, however, they evolved into full graphical desktop environments, with rich protocols and such. We'll briefly explore this journey, from the first text editors like ed, to the network powered X, and the modern-day wire protocol Wayland.



Md Isfarul Haque
[Final Year CS Undergrad]

WORKSHOPS

Bridges, Burglars, Birthday Cakes and Ballots - Stories That Became Theorems

Some of the deepest results in computer science and mathematics began not in a lecture hall, but as puzzles that felt almost too simple to take seriously... until someone did. In this talk, we trace four such stories: from the riverbanks of eighteenth-century Königsberg to the voting booths of modern democracies, from a burglar's impossible dilemma to a child's birthday party gone wrong. Each story ends the same way: with a theorem. This talk is an invitation to that moment: the instant a story becomes a proof. No prerequisites, no prior exposure to theory required, only a willingness to be surprised by how much rigour can hide inside a simple riddle.

Kailash Gopal
[Final year CS Undergrad]

TECH TALKS

Networking for LLM Training: Architectures, Protocols and Mechanisms

Given the increasing deployment of LLM training and inference workloads across metropolitan-scale datacenter infrastructures, it is crucial to understand their network characteristics, their impact on latency-sensitive applications (such as NFV service chains), and potential strategies to optimize resource allocation. This talk will discuss some important aspects of network topologies, communication protocols and mechanisms to enable efficient support of gigantic-volume LLM traffic on multi-Terabit data center networks.

Prof. Krishna Moorthy Sivalingam

ML for Compilers and Compilers for ML

The interplay between compilers and machine learning is rapidly reshaping both fields. On one hand, machine learning (ML) techniques are being applied to optimize compiler design, from code generation to performance tuning, enabling adaptive and intelligent compilation strategies. On the other hand, compilers themselves are evolving to efficiently target ML workloads, translating high-level models into optimized code for diverse hardware architectures. This talk explores this dual perspective: how compilers can accelerate ML and how ML can enhance compiler technologies, highlighting recent advances, challenges, and opportunities at the intersection of these domains.

Prof. Krishna Nandivada

TECH TALKS

The distortion effect: or How I learned to stop regretting and love the risk

Sequential decision-making problems such as reinforcement learning (RL) and multi-armed bandits traditionally aim to maximize expected reward, which ignores risk. We introduce a risk-sensitive framework using distortion riskmetrics (DRMs) that capture a broad class of risk and deviation measures.

DRM-sensitive bandits: For many risk metrics, the optimal policy is a mixture of arms rather than a single arm. We design regret-efficient algorithms that can track optimal mixtures or identify a single optimal arm when applicable.

DRM-sensitive RL: We maximize the DRM of discounted rewards in a finite-horizon MDP. Using the likelihood ratio method, we derive policy gradient and Hessian theorems and propose a cubic-regularized policy Newton algorithm that converges to a second-order stationary point, enabling escape from saddle points.

Prof. Prashanth L A

Evolution of OCaml

From advanced compilers to large-scale systems, OCaml has been one of the most influential functional programming languages. Originating from the ML (Meta Language) family, it is known for its powerful type system, safety, and performance.
This talk will explore the evolution of OCaml from its early design to recent innovations enabling multicore and parallel programming—and how it continues to influence modern software systems.
Join us at CS ExeBit to discover the ideas behind this elegant language.

Prof. KC Sivaramkrishnan

CONTESTS

Reverse Coding

Welcome to a Reverse Coding Contest where you provide the input and receive the output. Your task is to analyze the result, discover the hidden pattern, and rebuild the logic behind the program.

Programming Contest

This is not just coding but a test of logic and speed. In a Competitive Programming Contest, you solve challenging problems under time pressure. Think clearly, code quickly, and climb the leaderboard.

Quantathon

Numbers challenge your thinking. In a Quantathon, you tackle data and logic driven problems using analytical reasoning. Solve efficiently, manage time well, and stand out with sharp thinking.

Capture the Flag

Capture the Flag is a cybersecurity competition where you race to find vulnerabilities and crack hidden challenges. Test your skills, solve the puzzles, and defend the digital world.

DAY 1 TIMELINE

10:00AM - 10:30AM

Inauguration

10:30AM - 12:30PM

Hackathon Presentation

- FInalists of Hackathon

12:30PM - 1:00PM

Professor Talk

- Prof. Krishna Moorthy Sivalingam

1:45PM - 2:30PM

Professor Talk

- Prof. Krishna Nandivada

2:30PM - 4:00PM

Workshop

- Introduction to Theorem Proving using LEAN

4:00PM - 6:30PM

Competitions

- Reverse Coding
- Capture The Flag

DAY 2 TIMELINE

9:00AM - 10:00AM

Competitions

- Quantathon

10:00AM - 12:30PM

Talk and Workshop

- Prof. KC Sivaramakrishnan
- Intro to OCaml

1:30PM - 2:30PM

Workshop

- From ed to Wayland : The Evolution of the Linux Desktop Environment
- Bridges, Burglars, Birthday Cakes and Ballots - Stories That Became Theorems

2:30PM - 3:30PM

Workshop

- When LLMs Stop Thinking

3:30PM - 4:30PM

Professor Talk

- Prof. Prashanth L A

4:30PM - 6:30PM

Competitions

- Programming contest

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