

## Education

### Indian Institute of Technology Madras

Chennai, Tamilnadu

B.Tech in Mechanical Engg • M.Tech in Robotics • Minor in Computing • CGPA 8.75/10

2018 - 2023

Coursework - Pattern Recognition and Machine Learning, Probability, Statistics & Stochastic Processes, Differential Equations, Econometrics, Mathematical Foundations for Data Science, Programming and Data Structures (C++), Image Signal Processing, GPU Programming, Reinforcement Learning, Deep Learning Specialization (Coursera - Audited)

## Professional Experience

### Software Engineer III

Bangalore, Karnataka

Cisco Systems India Pvt Ltd

Aug 2023 – Present

- Designed and implemented a scalable C/C++ code coverage tool, currently powering 20,000+ test builds/week across engineering IOS-XE, XR and NX organizations in Cisco (~10,000+ developers).
- Collaborating on using Agentic workflows using LangGraph and internal MCP servers to reduce the mean time of support ticket resolution by 30%.
- Developed an IDE-integrated runtime tracing tool to record and replay code execution paths offline, accelerating debugging and developer onboarding for complex systems.
- Worked extensively on system-level networking operating systems (switches/routers), integrating coverage into builds using Bazel, GNU Make, and CMake build systems across a diverse CI pipeline.

### Software Development Intern

Bangalore, Karnataka

Webex Integrations, Cisco Systems India Pvt Ltd

May 2022 – Jul 2022

- Developed a prototype Backend Command Line Interface to integrate third-party services on Cisco Webex Teams.
- Automated boilerplate code generation to simplify integrating 100+ applications and tools with the Webex Teams app.
- Received a Pre-Placement Offer based on my performance during the internship.

### Research Intern

Bangalore, Karnataka

Indian Institute of Science (IISc); Guide: Prof. Shishir Kolathaya

Jun 2021 - Jul 2021

- Implemented state-of-the-art model-free Reinforcement Learning algorithms to solve complex dexterous manipulation tasks.
- Established baselines for various Actor-Critic and Policy-Gradient methods on different OpenAI-Gym Hand Manipulation environments.

### Deep Learning Intern

Bangalore, Karnataka

Vel.ai - Startup

Jun 2021 - Oct 2021

- Collaborated with Prof. Lakshminarayanan Subramanian (New York University) to develop and deploy an end-to-end machine learning pipeline to automate X-ray-based lung diagnosis.
- Devised a ResNet-based algorithm to predict severity scores for 12 lung conditions and deployed our model on AWS Cloud.

## Projects

### Pseudo-Label guided Weakly Supervised Learning

Image Processing and Computer Vision Lab, IIT Madras (Guide: Prof A.N.Rajagopalan)

Dec 2022 – Aug 2023

- Developed a contrastive learning framework to obtain image representations in a weakly supervised setting for downstream tasks (image classification) with minimal training data.
- This method consistently outperforms existing weakly supervised algorithms by 2 – 5% on multiple datasets.
- The paper was submitted to the European Conference on Computer Vision (ECCV) 2024.

### Audio Visual Depth Estimation (Dual Degree Project)

Image Processing and Computer Vision Lab, IIT Madras (Guide: Prof A.N.Rajagopalan)

Dec 2022 – Aug 2023

- Devised a deep learning architecture to make spatial inferences in an indoor environment, using audio and visual cues.
- Our UNet-based multimodal autoencoder returns a pixel-wise 360° depth map given the monocular image and binaural echo response within a static environment.
- Our model surpassed all existing state-of-the-art models for this task on the Replica and Matterport 3D datasets.

## Key Achievements & Certifications

- NISM-Series-VIII: Equity Derivatives Certification - July 2025
- JEE Advanced Rank 1767 (2018) - Scored in the 99.84<sup>th</sup> percentile among 11 lakh candidates nationwide
- National Talent Scholarship Examination (NTSE) Scholar 2016

## Technical Skills

- **Languages:** C, C++, Python, Unix/Linux, Bash, CUDA, Golang, Perl, SQL
- **Frameworks:** PyTorch, TensorFlow, Scikit-learn, Numpy, Pandas, Git
- **Competitive Programming:** Codeforces Expert, Codechef (4★)