

YASH RAJ

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WORK EXPERIENCE

Minds, Machine and Society Lab

Hanover, NH

Researcher Assistant

Current

- Currently analysing embedding and MLP layers of GPT2 Small (124M) under Professor Soroush Vosoughi to characterise superposition, using activation probing, sparse auto encoders, and feature visualisation to isolate overlapping latent features.
- Beginning to quantify how semantic concepts share neurons across layers and researching metrics to measure when superposition becomes more or less pronounced during forward passes.

Dartmouth College

Hanover, New Hampshire

Teaching Assistant CS76 Artificial Intelligence

Sep 2025 - Dec 2025

- Supported students in applying AI concepts (search, ML, neural networks) through code debugging and problem-solving in Python.
- Clarified complex theoretical concepts during office hours, improving student understanding and performance. Developed strong mentoring, communication, and leadership skills while guiding peers in technical coursework.

Amazon - ATS

Bengaluru, Karnataka

Project Manager

Jan 2025 - June 2025

- Spearheaded the implementation of a large-scale network optimisation tool using heuristic algorithms across major metropolitan hubs (Delhi, Kolkata), delivering a combined annualised saving of INR 37 MM (USD 440K+) and decreasing total distance traveled by 7,500 km (8%)
- Automated various input preparation processes for the optimisation model, reducing manual effort by 92 % (from 3 hours to 15 minutes per input), minimising human error and increased team efficiency.

Indian Space Research Organisation - ISRO

Bengaluru, Karnataka

Research Intern

Jan 2023 - August 2024

- Developed an anomaly prediction and adaptive error correction system utilising deep learning techniques, specifically Long Short-Term Memory (LSTM) and Reservoir Computing, to analyse 2TB of unstructured spacecraft telemetry data for Mission Control.
- Achieved 94% accuracy in predicting spacecraft malfunctions, preventing critical failures and saving costs.

Department of Telecommunication : Government Of India

Bengaluru, Karnataka

Junior Research Assistant

Dec 2023 - May 2025

- Leveraged 5G broadband to deploy 3 drones simultaneously using computer vision and swarm intelligence for search and rescue operation achieving an accuracy of 87% during deployment.
- Leading a team of 4 individuals to create an AI based MRI report generator using SegUnet CNN architecture and Large Language Models.

FUNDED PROJECTS

Department of Telecommunication : Government Of India

Bengaluru, Karnataka

- Recipient of a funding worth INR 2,50,000 from the Department of Telecommunications for the 5G Vimarsh project to develop our body cam prototype and integrating it with feed from various IoT Devices to perform Facial recognition, Number plate recognition, Threat detection.

EXTRACURRICULAR ACTIVITIES

- Undergraduate Student Advisor for a 1400 member house community, fostered a supportive house community by mentoring residents, organising various community building events, and connecting students to campus resources.
- Worked for the Sakhi Foundation, teaching English, Math & Science to over 40 women from underprivileged communities over the course of 2 summer breaks (2023, 2024).
- Led a group of 130 NSS students in constructing houses for the underprivileged, simultaneously raising awareness on critical issues like domestic violence and menstrual hygiene, attended by over 150 women.

EDUCATION

Guarini School of graduate and Advanced Studies at Dartmouth College.

Hanover, NH

Master's In Computer Science

2025 - Present

75% Merit Scholarship

GPA - 4/4 with citation of merit

Ramaiah Institute of Technology

Bengaluru, Karnataka

Bachelor of Engineering in Mechanical Engineering

2021 - 2025

GPA- 3.48/4

AWARDS & RECOGNITIONS

Academic Achievements

- Gold Standard - The Duke of Edinburgh's International Awards - 2022
- Winner of 5G Vimarsh Hackathon, SmashHack - AI in Cyber Security - 2025
- Department Of Telecommunication Research Award - 2025

Sporting Achievements

- Finished 7th in 65 kms in Naval Open Triathlon - 2024
- 3rd place - SGFI Football Nationals, Selected for the IPSC national football team
- Represented Tamil Nadu Football for the BC Roy trophy
- Winners - VTU Football Tournament - 2024, 2023
- 2nd place - 400m, 3rd place 4*400m relay, 3rd place 10Kms - VTU Athletics Championship - 2024
- 3rd place 400m, 2nd place 10Kms, - VTU Athletics Championship - 2023