Hariganesh Tangirala

Email: hariganeshtangirala@gmail.com **Webpage:** hariganesht.github.io

Education

B.Tech, Electronics and Communication Engineering 2023 – present
Vellore Institute of Technology, Vellore
Cumulative GPA: 8.85 / 10
Selected Coursework: Probability & Statistics, Linear Algebra, Game Theory, Artificial Intelligence & Machine Learning, Mathematics for Economics.

Research Interests

Computational cognitive science; Bayesian models of cognition; bounded rationality; decision-making; social and multi-agent cognition; human-AI interaction.

Research Experience

Boundedly rational agents for assistive decision-making
Cooperative Systems & Intelligence Lab, National University of Singapore
Advisor: Prof. Tan Zhi Xuan Aug 2026 – present

- Developing a Bayesian model of preference learning in users with uncertain self-knowledge, studying how evaluations update beliefs over latent preferences and generalize to unseen options.
- Using the model to study a two-sided assistance problem in which an agent must both infer a user's preferences and reason about what information may help the user learn those preferences themselves.
- Developing behavioral experiments to compare model predictions against human preference learning.

Near-misses in controllable environments
Data Analytics, Risk & Technology Lab, IIT Madras
Advisor: Prof. Nandan Sudarsanam May 2026 – present

- Studying whether near misses motivate persistence as they provide information about an actor's likelihood of future success.
- Designed a manipulation using controlled environmental noise to dissociate the proximity of an outcome to success from proximity of the actor's own performance to success.
- Developing a behavioral experiment testing how the motivational effect of outcome proximity changes with environmental noise; targeting submission to CogSci 2027.

Improving dementia diagnosis in Alzheimer's disease
Department of Medical Sciences & Technology, IIT Madras
Advisor: Prof. Boby George Summer 2025

- Pre-processed and normalized multi-modal neuroimaging datasets for MRI-based models of early dementia diagnosis in patients with Alzheimer's disease.
- Analyzed alternative normalization methods and their impacts on classification performance.

Independent Study

CS6101: Rational Approaches to Cooperative Intelligence.
Graduate-level seminar course taught by Prof. Tan Zhi Xuan at NUS; rational-agent models, cooperative intelligence, and probabilistic approaches to reasoning about agents.

3016: Computational Cognitive Science.
Independently completed coursework taught by Profs. Andrew Perfors and Danielle Navarro; probabilistic approaches to cognition.

Academic Awards

IRIS@NUS Fellowship Fall 2026
National University of Singapore
Fully funded research fellowship; selected among 22 fellows from $\sim$ 7,000 applicants.

Chancellor's Special Achiever Award 2025 & 2026
Vellore Institute of Technology
Recognized for exemplary representation of the university at the international level; awarded to approximately 0.01% of students.

Teaching & Service

Trainer 2025 – 2026
Indian Schools Debating Society
Coached students of grades 6–12 in debating and public speaking, worked to develop curriculum for the Indian National Debate Squad tryouts.

Head of Training 2025 – 2026
Debate Society, VIT
Led recruitment, training, and won awards with the university debate team; directed fundraisers with 600 participants across 20 countries, raising over $5000.

Student Advisor Fall 2025
Office of Undergraduate Research, VIT
Advised the founding Office of Undergraduate Research and helped draft policies to establish ULINK, a university-wide pathway for undergraduate involvement in faculty research groups.

Training Volunteer Fall 2024
A Responsible Citizen Foundation
Organized public speaking events and opportunities for middle school students.

Technical Skills

Programming: Python, Julia, R, MATLAB.
Probabilistic Programming: Memo.
Scientific Computing: NumPy, pandas, Matplotlib.
Typesetting: LaTeX.
Languages: English, Hindi, Tamil, Telugu.