

Sarvesh Gharat

sarvesh.gharat@iitb.ac.in | [sarveshvgharat.github.io](https://github.com/sarveshvgharat) | linkedin.com/in/sarvesh-gharat

Seeking a Summer 2026 Research Internship in Reinforcement Learning, Agentic System, and LLM Reasoning

EDUCATION

IIT Bombay <i>PhD in Artificial Intelligence and Data Science</i>	Mumbai, In <i>Jul. 2022 – May 2027</i>
Vishwakarma Institute of Information Technology <i>BTech in Electronics and Telecommunication</i>	Pune, In <i>Aug. 2018 – May 2022</i>

RESEARCH INTERESTS

My research focuses on online learning, particularly multi-armed bandits and Markov decision processes (MDPs) for sequential decision-making. I'm also interested in multi-agent systems and currently work on inference-time algorithms along with the bandit theory.

EXPERIENCE

• Summer Research Intern <i>Adobe Research</i>	May 2025 – July 2025 <i>Host: Soumyabrata Pal, Ramasuri Narayanan</i>
<ul style="list-style-type: none">Improved LLM reasoning under fixed compute constraints by developing a novel method to inject auxiliary information during sequential test-time scaling.Designed and implemented an efficient, on-the-fly example selection strategy using embedding similarity, leading to more relevant in-context examples during inference.Focused on designing inference-time techniques that enhance model responses without changing any underlying parameters.	
Patent Submitted (Approved by Adobe Review Committee)/ Paper in Progress: Gharat, S., Pal, S., Narayanan. R., Guided Sequential Test Time Scaling using additional hints from exemplars	
• Student Researcher <i>Google DeepMind</i>	Oct 2024 – March 2025 <i>Host: Aparna Taneja, Milind Tambe</i>

- Quantified the impact of AI-scheduled interventions on beneficiary engagement and health knowledge in a large-scale maternal health program, analyzing data from thousands of participants.
- Demonstrated statistically significant improvements in maternal health awareness through a comparative analysis of AI-targeted interventions versus control groups.
- Improved reliability of survey-based insights by addressing noise and response variability, enabling statistically significant impact detection.

Paper Accepted: Dasgupta, A.*, **Gharat, S.***, Madhiwalla, N., Hegde, A., Tambe, M., Taneja, A. AI-Targeted Calls Drive Measurable Improvements in Maternal Health, PAIS ECAI 2025

• Research Assistant <i>Tata Institute of Fundamental Research</i>	Aug 2021 – June 2022 <i>Host: Prof. Shri Ganesh Prabhu</i>
<ul style="list-style-type: none">Designed optimization methods to estimate the refractive index of optically thin materials using Terahertz Time Domain Spectroscopy.Implemented and benchmarked algorithms including Dual Annealing, SHGO, and Newton-Raphson to improve convergence stability.Built a user-friendly Python library to support experimental analysis and make the refractive index estimation pipeline accessible for both researchers and educators.	

SELECTED PUBLICATIONS

- Gharat, S.**, Karamchandani, N., Nair, J. Cost-Aware Best Arm Identification via Dueling Feedback with Applications to Large Language Models, under review (2025)
- Gharat, S.**, Yadav, A., Karamchandani, N., Nair, J. Representative Arm Identification: A fixed confidence approach to identify cluster representatives, ICASSP 2025

- **Gharat, S.**, Borthakur, A., Bhatta, G. Estimation of redshift and associated uncertainty of Fermi/LAT extragalactic sources with Deep Learning, MNRAS 2024

Full publication list available at scholar.google.com/sarveshgharat

INVITED TALKS & PRESENTATIONS

- *Cost-Aware Best Arm Identification in Dueling Bandits* — Cohere for AI Research Connections (2025)
- *Representative arm identification: A fixed confidence approach to identify cluster representatives* — Cohere for AI Reinforcement Learning Group (2025)
- *Estimating Redshifts of AGNs using Neural Networks* — IAU-IAA Astroinformatics Seminar (2024)
- Posters: IndoML 2024, ACM PIC 2024, Google Research Week 2024

ACADEMIC SERVICE & HIGHLIGHTS

- **Reviewer/PC:** IEEE Transactions on Information Theory, IJCAI AI for Social Good 2025, AAMAS 2025
- **Selected for:** ACM CODS-COMAD PhD Clinic, ACM PIC 2024, Google Research Week (2024, 2025)
- **Kaggle:** Silver Medal – LLM Prompt Recovery Challenge (Ranked 79/2175)
- **Research Grants:** State Bank of India (SBI) sponsored grant (along with Prof. NK and Prof. JKN) on “Dynamic LLM Optimization and Fine-Tuning via Dueling Bandits”, 2025 - 2027
- **Collaborations:** VaTEST, LOFAR2.0 Ultra Deep Observations, AI4Astro, MAASI GDM

TECHNICAL SKILLS

- **Programming:** Python, LaTeX, Apps Script
- **Libraries:** PyTorch, TensorFlow, NumPy, pandas, vLLM, Transformers
- **Tools:** Jupyter Notebook, Git, Docker, Google Cloud Platform, VS Code