

Sarvesh Gharat

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

EDUCATION

IIT Bombay

PhD in Artificial Intelligence and Data Science

Mumbai, In

Jul. 2022 – May 2027

Vishwakarma Institute of Information Technology

BTech in Electronics and Telecommunication

Pune, In

Aug. 2018 – May 2022

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

May 2025 – July 2025

Adobe Research

Host: Soumyabrata Pal, Ramasuri Narayanam

- 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., Narayanam. R., Guided Sequential Test Time Scaling using additional hints from exemplars

• Student Researcher

Oct 2024 – March 2025

Google DeepMind

Host: Aparna Taneja, Milind Tambe

- 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 selected maternal health knowledge and postnatal care behaviors via a rigorous comparative analysis of AI-targeted interventions versus matched 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

Aug 2021 – June 2022

Tata Institute of Fundamental Research

Host: Prof. Shriganesh Prabhu

- 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, (Full Paper to be Submitted, Extended Abstract accepted at AAMAS 2026)**
- 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, ACM ARCS 2026

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), ACM India ARCS 2026
- **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