

Shreya Rajpal

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Objective

Ph.D. researcher focused on trustworthy and neuro-symbolic reasoning for complex spatial tasks.

Education

Michigan State University, East Lansing, Michigan, USA 2025 – 2030
Doctor of Philosophy, Computer Science Engineering

Advisor: Prof. Dr. Parisa Kordjamshidi | HLR Lab

Focus: Neurosymbolic and Trustworthy Spatial Reasoning

GPA: 3.92/4.0

Accolades: University Distinguished Fellow (2025-2030) ; Dr. Frank B. Martin CumRec Endowed Fellowship 2025.

Vellore Institute of Technology, Vellore, Tamil Nadu, India 2021 – 2025
Bachelor of Technology, Computer Science Engineering with Business Systems.

CGPA: 8.93/10.0

Accolades: Top 8% of the class in a cohort of 300 students.

Research Publications

Shreya Rajpal, Tanawan Premisri, and Parisa Kordjamshidi, “**Spatial Reasoning via Modality Switching Between Language and Symbolic Representation**,” *Preprint*, 2026. [arXiv:2606.31285](https://arxiv.org/abs/2606.31285)

Shreya Rajpal, Michal Golovanevsky, and Carsten Eickhoff, “**Less is More: Label-Guided Efficient Summarization of Procedural Videos**,” *1st International Workshop on Sustainable and Efficient Language, Vision, and Action Models (SELVA) at ACL 2026*. [OpenReview preprint](#).

Krithi Shailya, **Shreya Rajpal**, Gokul S. Krishnan, and Balaraman Ravindran, “**LEXT: Towards Evaluating Trustworthiness of Natural Language Explanations**,” *Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency (FAccT 2025)*, pp. 1565–1587, ACM, 2025. DOI: [10.1145/3715275.3732104](https://doi.org/10.1145/3715275.3732104)

Shreya Rajpal and E. S. Madhan, “**MediSentBot—Medicine Review Sentiment Analysis and Recommendation Bot Using Modern NLP**,” *Proceedings of the Fourth International Conference on Computing and Communication Networks (ICCCNet 2024)*, Lecture Notes in Networks and Systems, vol. 1292, pp. 663–678, Springer, 2025. **Best Paper Award**. DOI: [10.1007/978-981-96-3250-3_50](https://doi.org/10.1007/978-981-96-3250-3_50)

Shreya Rajpal and N. Prabakaran, “**Time Series Forecasting Using Language Models—A Case Study on ITO, Delhi**,” *Proceedings of the International Conference on Micro-Electronics and Telecommunication Engineering (ICMETE 2024)*, Lecture Notes in Networks and Systems, vol. 1417, pp. 193–209, Springer, 2025. DOI: [10.1007/978-981-96-6515-0_15](https://doi.org/10.1007/978-981-96-6515-0_15)

Shreya Rajpal and Ricardo Usbeck, “**BERTologyNavigator: Advanced Question Answering with BERT-based Semantics**,” *Joint Proceedings of Scholarly QALD 2023 and SemREC 2023 (co-located with the 22nd International Semantic Web Conference, ISWC 2023)*, vol. 3592, CEUR Workshop Proceedings, 2023. **Paper:** <https://ceur-ws.org/Vol-3592/paper7.pdf>

Work Experience

AI Science Intern, Intuit - CA, USA Jun 2026 – Aug 2026

- Working on RAG-based pipelines and deep learning-based product recommendation systems aimed at improving efficiency and response quality in AI-assisted workflows.

Graduate Research Assistant, Heterogeneous Learning & Reasoning Lab - MI, USA Aug 2025 - Present

- Conducting research on trustworthy and neuro-symbolic spatial reasoning with language models, including developing adaptive modality-switching frameworks between natural language and symbolic representations for multi-hop spatial reasoning.

- Research Intern**, University of Tübingen - Health NLP Lab, Tübingen, Germany Dec 2024 – June 2025
- Developed **PRISM**, a label-guided video summarization framework with visual semantics and procedural grounding, achieving +33% over baselines on instructional datasets.
- Research Trainee**, Georgia Tech - Financial Services Innovation Lab, USA (Remote) May 2024 – Jan 2025
- Researched LLM applications in quantitative finance, designing a long-form multi-hop QA for financial law across 10 U.S. states and a 5-metric evaluation framework to assess chain-of-thought reasoning on logical questions; also built a RAG-based chatbot on SEC filings for investment analysis.
- Research Intern**, IIT Madras - Centre of Responsible AI, Tamil Nadu, India May 2024 – Jan 2025
- Researched medical language models at CeRAI lab, co-authored **LEX-T**, a framework assessing explanation trustworthiness through faithfulness and plausibility on medical datasets.
- Research Intern**, University of Hamburg- SEMS group, Germany Aug 2023 – Sept 2023
- Built **BERTologyNavigator**, a BERT-based system for knowledge graph question answering, achieving 100% accuracy on one-hop DBLP QuAD.

Technical Skills

Programming Languages: Python, C++, C, Java, YAML, JavaScript, SQL, HTML, CSS.

Frameworks & Tools: PyTorch, TensorFlow, Hugging Face, Scikit-learn, Numpy, Pandas, Matplotlib, OpenCV, MATLAB, ROS2, SLAM.

Development & Deployment: Docker, FastAPI, Flask, Streamlit, Firebase, Git/GitHub, AWS, Azure Cloud.

Achievements

- 2nd Prize at CIL Hackathon (2021) among 200 teams all over India.
- Scholarship Stipend for Bachelor Students at the University of Hamburg, Germany.
- University Distinguished Fellowship Recipient 2025-2030 Michigan State University.
- Mercer Mettl Hackathon 2024 Top 50 teams among 500+ participants.
- AWS-Udacity Scholarship for AI programming in Python.
- Grace Hopper Celebration Scholarship 2023 and 2024 Recipient.
- Womanium Quantum Scholar 2024.
- Womanium Quantum Final Awards'24 – Top 14 Finalists.
- IET Scholarship Award '24 - Top 100 in 64000+ participants.
- Best Paper Award at ICCNet'2024 for MediSentBot.
- Top 20 Teams at Nasscom ThingQbator Cohort 2025.

Certifications

- AWS-Udacity Nanodegree for AI programming in Python.
- Sequence Models, Coursera DeepLearning.AI course.
- Python for Computer Vision with Open CV and Deep Learning Udemy Course by Jose Portilla.
- ChatGPT Prompt Engineering course by DeepLearning.AI.
- Microsoft Azure AI Fundamentals Professional Certificate (921/1000).

Leadership

- Co-Founder & CTO**, Vizen, Incubated at NASSCOM ThingQbator Nov 2023 – June 2025
- Built a one-stop platform for mental health wellbeing, selected as Top 10 finalist by Nasscom ThingQbator.
 - Developed chat, audio, and video agents integrating emotional intelligence into AI, boosting satisfaction by 45%.

- Technical Head**, IEEE SSIT VIT Jan 2023 – Jan 2024
- Mentored 40+ students, driving innovation and technical excellence.
 - Keynote speaker at CodeConfluence'23 with 100+ participants.
 - Led 3 open-source projects as admin that ranked Top 50 at GSSoC 2023 and onboarded them for HacktoberFest.