

RUTUJA GURAV

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| EDUCATION | M.S. Computer Science , University of California, Riverside USA B.E. Computer Engineering , University of Mumbai, India | 2017 - 2019 2013 - 2017 |
| RESEARCH EXPERIENCE | University of California, Riverside <i>Graduate Student Researcher</i> | 2019 - 2025 |
| | LIGO Scientific Collaboration, Caltech <i>Visiting Student Researcher</i> Focus: Machine Learning for noise characterization in Advanced LIGO detectors. | |
| WORK EXPERIENCE | Frontier Development Lab (FDL), a public-private partnership between NASA, Google and NVIDIA <i>Researcher</i> Project: Forecasting radiation exposure for human spaceflight with multi-modal deep learning | June - August 2024 |
| | Lawrence Livermore National Lab (LLNL) <i>Graduate Summer Research Intern (Team: Data Science & Analytics Group)</i> Project: Modeled multi-scale, multi-physics simulations using Graph Neural Networks (GNNs). | June - August 2022 |
| | <i>Team Lead: Data Science Challenge</i> Task: Led a group of undergraduate students to build machine learning models for - 1. classifying stars and galaxies using HSC images from the Subaru Telescope in Hawaii, 2. detecting asteroids in images from ZTF astronomical survey. | September 2021 |
| | Oak Ridge National Lab (ORNL) <i>Graduate Summer Research Intern (Team: Geoinformatics Engineering)</i> Project: Conflation of Geospatial POI Data and Ground-level Imagery via Link Prediction on Joint Semantic Graphs. | June - August 2021 |
| | Esri Inc. <i>Data Science Intern (Team: GeoAI)</i> Project: Water mains breaks prediction using historic pipe records to forecast future breaks in water supply pipelines to aid risk assessment and maintenance. | June - August 2018 |
| TECHNICAL SKILLS | Programming Languages & Software - Python (proficient); C/C++, Java, MATLAB (intermediate) Machine Learning - Numpy, Scipy, Pandas, Scikit-Learn Deep Learning - PyTorch / Lightning, Tensorflow / Keras Tensor Analysis - Tensorly (Python); Tensor Toolbox (MATLAB) Collaboration & Experiments Tracking - Git / Google Coblab, Weight & Biases / Tensorboard Cloud Computing Platforms - Google Cloud Platform (GCP) | |
| SELECTED PUBLICATIONS | Gurav, R., et al. (2023). Can SAM recognize crops? Quantifying the zero-shot performance of a semantic segmentation foundation model on generating crop-type maps using satellite imagery for precision agriculture. In NeurIPS 2023 AI for Scientific Discovery: From Theory to Practice. (<i>AI for Precision Agriculture</i>) Gurav, R., De, D., Thakur, G., & Fan, J. (2021, November). Conflation of geospatial POI data and ground-level imagery via link prediction on joint semantic graph. In Proceedings of the 4th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery (pp. 5-8). (<i>AI for Multi-modal Geospatial Analysis</i>) | |
| PATENT | Conflation of geospatial points of interest and ground-level imagery, US12008800, 2024/6/11 | |
| CERTIFICATES | Generative AI (GenAI) with Large Language Models (LLMs) , DeepLearning.AI How do Diffusion Models Work , DeepLearning.AI Finetuning Large Language Models (LLMs) , DeepLearning.AI | May 16, 2024 November 26, 2024 November 10, 2025 |