

RUTUJA GURAV

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EDUCATION	M.S. Computer Science , University of California, Riverside USA B.E. Computer Engineering , University of Mumbai, India	2025 2013 - 2017
RESEARCH EXPERIENCE	University of California, Riverside <i>Graduate Student Researcher</i> LIGO Scientific Collaboration, Caltech <i>Visiting Student Researcher</i> Focus: Machine Learning for noise hunting 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). <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.	June - September 2022 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 Colab, 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. (AI for Precision Agriculture) 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). (AI for Multi-modal Geospatial Analysis)	
PATENT	Conflation of geospatial points of interest and ground-level imagery, US12008800, 2024/6/11	
CERTIFICATES	Generative AI (GenAI) with Large Language Models (LLM) , DeepLearning.AI How do Diffusion Models Work , DeepLearning.AI	May 16, 2024 November 26, 2024