

Education

University of California San Diego

M.S. COMPUTER SCIENCE AND ENGINEERING (GPA: 4/4) [[Transcript](#)]

California, USA

2022 - Mar 2024

Indian Institute of Technology Gandhinagar

B.TECH. WITH HONOURS IN COMPUTER SCIENCE AND ENGINEERING (CPI: 9.01/10) [[Transcript](#)]

Gandhinagar, India

2018 - 2022

Technical Knowledge

Programming Languages: Python, C, C++, Go, MATLAB, SQL, Verilog, JavaScript, HTML, CSS, SLURM Scripting

Tools: Git, Airflow, PyTorch, Tensorflow, Spark, Docker, Kubernetes, ROS, OpenCV, GCP, \LaTeX , Huggingface, Databricks

Relevant Experiences

Lucid Motors

Newark, California

SR. DATA SCIENTIST | MANAGER: DR. ANURADHA KODALI

April 2024 - June 2024

- Joined the team and quickly made remarkable contributions by *leading the adoption of Generative AI* for automating customer care data analysis. This initiative reduced manual workforce effort by **90%**, optimized metrics like MTTR (Mean Time to Resolution), and provided valuable insights from customer feedback, resulting in potential significant process improvements.
- Enabled the transition from rule-based to *ML-driven anomaly detection* for vehicle fleet security, incorporating Responsible AI principles and guardrails to prevent catastrophic failures. This enhancement reduced false positives by **50%**, simplifying the validation of cybersecurity threats. Proposed and implemented feature importance techniques to enhance the explainability of these operations.

Nokia Bell Labs

Murray Hill, New Jersey

AUTONOMOUS SYSTEMS RESEARCH INTERN | MENTOR: MRS. BUVANESWARI RAMANAN

June 2023 - August 2023

- Leveraged large language models (LLMs) to enhance Nokia's patent-pending, proprietary MLOps platform for the end-to-end operations of ML-based use cases. [*Manuscript under review at IEEE Transactions on Artificial Intelligence*]
- Developed innovative task-specific knowledge enrichment strategies, involving automatic retrieval using Langchain and vectorstores, to improve the performance of LLMs in complicated code generation tasks.

Nanyang Technological University

Singapore

RESEARCH INTERN | MENTOR: PROF. ERIK CAMBRIA

May. 2021 - Jul. 2021

- Developed a *deep multitask learning* framework that enhances the performance of Negation Scope Detection using POS tagging as an auxiliary task. Used *transformers* and *neural tensor fusions* to leverage the inter-task correlations. Achieved **5%** improvement over the baseline models.

Publications

Automating Code Adaptation for MLOps – A Benchmarking Study on LLMs [[arxiv](#)]

Accurate and Scalable Gaussian Processes for Fine-grained Air Quality Inference, **AAAI (2022)** [[doi](#)]

Enhancing Negation Scope Detection using Multitask Learning, **ICDMW (2021)** [[doi](#)]

Program Synthesis: Does Feedback Help?, **ACM CoDS-COMAD (2022)** [[doi](#)] [[poster](#)]

Assessing the interplay between travel patterns and SARS-CoV-2 outbreak in realistic urban setting, **SpringerOpen (2021)** [[doi](#)]

Projects

Advancing Model-Agnostic Text Dataset Distillation

[GitHub Repo](#)

[Arxiv](#)

UC San Diego

MENTOR: PROF. JINGBO SHANG ▷ NLP | DEEP LEARNING | EFFICIENT LEARNING

Apr. 2023 - June 2023

- Developed novel text-dataset distillation techniques that demonstrate strong cross-architecture generalization capability, enhancing efficiency and performance in natural language processing tasks. Achieved a remarkable 95% distillation ratio with just 30 samples.

Robust, Scalable, & Fault-Tolerant Networked File Storage Service

UC San Diego

MENTOR: PROF. GEORGE PORTER ▷ NETWORKED SYSTEMS DESIGN | DISTRIBUTED CLOUD COMPUTING

Jan. 2023 - Mar. 2023

- Developed a cloud-based file storage system, leveraging **gRPC** for streamlined communication, **Consistent Hashing** for efficient load balancing, and the **RAFT** consensus algorithm to ensure fault-tolerance and consistency.

Accurate and Scalable Gaussian Processes for Fine-grained Air Quality Inference

[Repo](#)

[GP-Viz](#)

IIT Gandhinagar

MENTOR: PROF. NIPUN BATRA ▷ APPLIED & DATA-DRIVEN MACHINE LEARNING | BAYESIAN MODELING

Aug. 2021 - May 2022

- Implemented stationary & non-stationary probabilistic **Gaussian Process** models for urban air quality estimation - as spatio-temporal regression. Our **uncertainty-aware** approach outperformed conventional **baselines** on standard air quality datasets.

Exploring Constrained Reinforcement Learning for Autonomous Driving

[GitHub Repo](#)

IIT Gandhinagar

MENTOR: PROF. NIPUN BATRA ▷ REINFORCEMENT LEARNING | POLICY OPTIMIZATION & EVALUATION

Jan. 2021 - May. 2021

Honors and Community Engagement

2024 **Teaching Assistant - Unsupervised Learning**, UC San Diego

2021 **Teaching Assistant - Machine Learning and Natural Language Processing courses**, IITGN

2021 **Pull Request (PR) accepted for PyMC**, Open source GitHub package for Bayesian statistical modeling

2019 **Leadership - Core Committee Member**, Amalthea - Tech Summit, Jashn - Cultural Fest at IITGN

2018 **Joint Entrance Exam (JEE)**, All-India-Rank 143 out of 1.13 million candidates