

Chaitya Arun Dobariya

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Education

Rutgers, The State University of New Jersey – New Brunswick Master of Science in Computer Science (MSCS)	Expected: May 2027 GPA: 4.0/4
Sardar Patel Institute Of Technology – Mumbai University Bachelor of Technology in Computer Science and Engineering	Jun 2025 GPA: 3.7/4

Technical Skills

Programming Languages: Python, R, JavaScript, Java, Kotlin, VBA, SQL, HTML/CSS

Cloud & Infrastructure: Docker, Kubernetes, Linux, AWS Services, MLflow

Databases & Tools: MySQL, PostgreSQL, MongoDB, SQLite, Apache Spark, Tableau, Power BI

Frameworks & Libraries: Pandas, Numpy, Scikit-learn, PyTorch, TensorFlow, LangChain, Flask, FastAPI, React.js, Node.js

Related Experience

Teaching Assistant, Rutgers University (Dept. of Computer Science) Sep 2025 – Present

- Serve as a part-time lecturer for **Introduction to Discrete Structures II**, supporting a class of **58 students**
- Lead weekly recitation sessions to clarify complex topics and facilitate collaborative problem-solving
- Conduct office hours to reinforce concepts in **graph theory**, **combinatorics** and **discrete mathematics**

Research Intern, IIT Bombay (Industrial Engineering and Operations Research) 📄 Jan 2024 – Oct 2024

- Engineered a multi-user Excel interface using **VBA** with **MongoDB** integration for collaborative data management
- Integrated a **Reinforcement Learning** model for Vehicle Routing Problem with a **scalable FastAPI** backend and real-time monitoring via Highcharts dashboard

Academic Projects

AI Personal Assistant | *Multi-Agent Systems & LLM Applications* 📄

- Developed a hierarchical multi-agent system using **LangGraph** and **LangChain** to manage emails, calendar, to-do lists and web research through **WhatsApp** integration
- Implemented specialized sub-agents for email, calendar, task management and research with a supervisor agent orchestrating task delegation

News Aggregator AI Agent | *Applied AI & System Development* 📄

- Implemented a scalable news aggregator with distributed data pipelines that fetches, processes, and organizes articles from multiple sources in real time
- Integrated **Large Language Models (LLMs)** for news summarization, keyword extraction, and topic clustering with efficient batch processing to enhance information retrieval

Aerosol Retrieval and Classification | *Unsupervised Machine Learning* 📄

- Validating a two-stage machine learning algorithm to retrieve multiple aerosol properties (AOD, AE, FMF, FAOD) using MODIS data, achieving high correlation and reduced RMSE
- Spearheaded the creation of a clustering framework to classify aerosols into **9 distinct** types; paper submitted to the **Journal of the Indian Society of Remote Sensing**

Automatic Tweet Mention Recommendation in X | *Natural Language Processing* 📄

- Designed a custom **BERT model**, achieving **81.56%** accuracy in classifying civic issues to automate department tagging
- Implemented a browser plugin (using **JavaScript**) and a department portal (using **Streamlit** and **MongoDB**) with location-aware recommendations and actionable statement generation with the **Llama 2** model
- Presented and published at the **10th IEEE International Smart Cities Conference (ISC2-2024)**, Thailand

Accomplishments

- Won **1st place** at the Space Frontier Innovation Challenge for pioneering a LiDAR solution for space debris tracking 📄
- Achieved a **top 10 international ranking** in the CANSAT competition, out of 18 participating countries 📄
- Led research initiatives as the **Research Head** of the Astrophysics Club at Sardar Patel Institute of Technology 📄
- Executed **community initiatives** at The Growing Buds Foundation through beach cleanups and orphanage programs 📄
- Advanced to the finals of SPIT Hackathon 2023, ranking among the **top 40** teams out of 1,444 entries 📄