Rishi Mulchandani

Urbana, IL

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Education

University of Illinois at Urbana-Champaign (GPA: 3.9/4.0) **May 2026**
Bachelor of Science in Computer Science *Champaign, IL*

Relevant Coursework: Probability & Stats, Artificial Intelligence, Machine Learning, Software Design

Clubs/Involvement: SIG AIDA Applied Chair, FOCAL Lab@UIUC Research, Quant Education Club

Technical Skills

Languages: Python, Java, C, C++, R, HTML/CSS, JavaScript, JQuery, ReactJS, Visual Basic
Developer Tools: Git, Docker, VS Code, Jupyter, Firebase, WordPress, SharePoint, PyCharm, Power Automate
Technologies/Frameworks: Numpy, Pandas, scikit-learn, tensorflow, Flask, Express.js, Node.js, PowerShell
Additional Skills: Agile, Linux, Flutter, Microsoft Office

Experience

Criterion Systems **June 2023 – Present**
Software Engineering Intern *Vienna, VA*

- Managing backend automation and scripting for the Mercury Correspondence System SharePoint site for the US Department of Agriculture (USDA) Forest Service (FS) through cloud computing/software development.
- Utilizing Microsoft SharePoint, PowerShell, Power Automate, and Excel VBA to resolve technical issues for the FS Mercury Correspondence System, ultimately reducing memory usage by more than 60%.
- Led the intern proposal group project to successfully develop a solution for a service-based innovation model.

Johns Hopkins University Applied Physics Laboratory **September 2022 – May 2023**
Research/Machine Learning Intern *Laurel, MD*

- Mentored by Dr. Caglar Caglayan to develop a research paper/study on clinical decision-making under uncertainty and medical prediction with ML algorithms and presented to the IEEE ISEC conference.
- Using data from the National Hospital Ambulatory Medical Care Survey (NHAMCS), successfully developed an ML framework using Logistic Regression, Random Forest, and XGBoost algorithms to predict admission and critical care outcomes in patients presenting to emergency departments and accurately identified socio-demographic and clinical factors associated with admission/outcomes.

University of Maryland, Baltimore County **June 2022 – January 2023**
Research Assistant *Baltimore, MD*

- Worked as a research assistant in Dr. Riadul Islam's UMBC VLSI-SOC Group, and collaborated with undergraduate, Masters, and Ph.D. students as well as Dr. Islam on to create models and collect data using CNNs, Reinforcement, and Supervised Learning for self-driving cars.
- Currently developing new CNN and physical hardware for autonomous driving on model RC car with 3D printed chassis, camera, servo driver, and Raspberry Pi.

Research

FOCAL Lab@UIUC **February 2024 – Present**

- Conducting research on offline reinforcement learning from human feedback (RLHF) at the University of Illinois at Urbana-Champaign under Dr. Gagandeep Singh and graduate mentor Yinglun Xu.
- Developing novel methodologies for training reward models from state-action pair human preference data.

Projects

Stock Price Prediction App | *Python, Yahoo Finance API, Numpy, Pandas, Axios, Flask, React* **May 2024**

- Machine learning model to predict stock prices for user-selected S&P 500 stocks.
- Made use of the LSTM ML architecture for stock price prediction.
- Frontend built using React to provide a user-friendly interface for selecting stocks, number of days to predict, and viewing predictions in graph format.

ML Stack Overflow Question Scraper | *Python, React, NodeJS, MongoDB, CORS* **December 2023**

- Python program to scrape data from Stack Overflow to grab top 50 new questions (question title and URL).
- Scraped data then stored in MongoDB database and displayed to user via React App.
- Working to integrate with LLM using Retrieval-Augmented Generation (RAG).