Rishi Mulchandani

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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 RL Research, ACM

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, AWS, boto3, Terraform, Jenkins

Experience

CyberArk **June 2024 – August 2024**
Site Reliability Engineer Intern *Newton, MA*
- Deploying and managing AWS infrastructure components such as VPCs, EC2, EKS, S3, tagging schemes, CloudFormation, etc. working with configuration management tools like Terraform, Salt, and Ansible.
- Implementing cloud-based monitoring, alerting and reporting with Datadog, Logz.io, InfluxDb, CloudWatch, Catchpoint, ELK, Grafana, etc.

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 70%.
- 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*
- Explored clinical decision-making under uncertainty and medical prediction with ML algorithms, presenting paper and study to the IEEE ISEC conference under mentorship of Dr. Caglar Caglayan.
- 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*
- Conducted research with Dr. Riadul Islam and his UMBC VLSI-SOC Group collecting data and utilizing techniques such as 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

AI Study Plan Generator App | *Flask, Python, OpenAI API, React, NodeJS, Firebase* **January 2024**
- Web app using OpenAI's LLM to generate study plans and practice questions from inputted audio/text files.
- React frontend and Flask backend breaking down content into sizeable chunks and providing practice study problems, making use of Python modules for PDF text extraction and audio transcription.

ML Stack Overflow Question Scraper | *Python, React, NodeJS, MongoDB, CORS* **December 2023**
- Python program scraping and storing question data from Stack Overflow in MongoDB database.
- Working to integrate with LLM using Retrieval-Augmented Generation (RAG).