

# RISHI MULCHANDANI

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## Education

### University of Illinois Urbana-Champaign

*Bachelor of Science in Computer Science*

May 2026

*Champaign, IL*

### Relevant Coursework

- Data Structures
- Discrete Structures
- Artificial Intelligence
- Linear Algebra
- Probability & Stats
- Software Design
- Calculus III

## 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).
- Utilizing Microsoft SharePoint, PowerShell, Power Automate, and Excel VBA to resolve technical issues for the FS Mercury Correspondence System.
- Attend regular meetings with the Mercury team of 4 and representatives from the USDA.
- 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. Accurately identified socio-demographic and clinical factors associated with admission and critical care outcomes by utilizing numerical and categorical features from the NHAMCS dataset.

### 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 a project centered on CNNs, Reinforcement, and Supervised Learning in self-driving cars, collected data and created models.

### Maryland Innovation and Security Institute

June 2021 – August 2021

*Cybersecurity Intern*

*Columbia, MD*

- Learned about cybersecurity and applied knowledge to real-world national cyber problems. Led a group of 6 conducting and presenting on a case study on an emerging cyber threat.

## 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.

### Stack Overflow Question Scraper | *Python, React, NodeJS, ExpressJS, 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.

### Gym Workout App | *HTML/CSS (SCSS), JavaScript, React, NodeJS, Firebase*

August 2022

- Created a React web application to plan, create, and track gym workouts on a weekly basis.
- Processed user-inputted information in the back-end of the app to return an organized list and plan of various potential workouts.

## Technical Skills

**Languages:** Python, Java, C, C++, HTML/CSS, JavaScript, JQuery, ReactJS, Visual Basic for Applications

**Developer Tools:** VS Code, Jupyter Notebook, Express.js, Node.js, Firebase, Docker

**Technologies/Frameworks:** GitHub, Microsoft Office, Flask, WordPress, SharePoint, PowerShell