

Ritvik Thakur

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EDUCATION

University of Maryland - College Park

GPA: **3.93** / 4.00

Bachelor of Science, Double Major in Computer Science and Mathematics

College Park, MD

Expected Spring 2026

EXPERIENCE

Undergraduate Researcher

Fire @ UMD

August 2023 - present

College Park, MD

- Employed **R** for data filtering and analysis to study the impact of lobbying on policy.
- Implemented **REST API** calls to gather data and leveraged **NLP** for dataset refinement.

Software Engineer Intern

Washington Software

Nov. 2022 - June 2023

Gaithersburg, MD

- Engineered a **React Native** essay-writing app with **Firebase** and OpenAI's **GPT API** for automated citations and content generation, overseeing the full development lifecycle.
- Enhanced efficiency of key workflows by optimizing existing **Power Automate** tasks, reducing processing time by 10%, and automating previously manual operations
- Utilized **Jira** for agile task management and **Scrum** orchestration, and designed **UML** diagrams and flowcharts for project visualization.

C++ Team Leader

Kids for Code

Aug. 2021 - Feb. 2023

Rockville, MD

- Virtual tutoring service targeted at children from the ages of 8 to 12. Service taught courses for **Python, C++, Java, and HTML CSS**.
- Managed the C++ branch and directed 10+ teachers with 1900+ students from 11 different countries.
- Developed and crafted curriculum, course materials, and assignments for every session

Summer Intern

Nobel Explorers

July 2021 - Aug. 2022

Remote

- Engineered a professional website for a Pakistani restaurant with a team of interns, focusing on user experience and modern web technologies.
- Delivered cybersecurity training to enhance internet safety and **troubleshooting** skills.

PROJECTS

Train Station Simulator | Java, Eclipse, Multithreading

- Developed a **Java**-based train simulator leveraging **multithreading** to enable simultaneous operations of multiple trains on shared tracks, including station stops and efficient passenger management.

Plane Wildlife Strike Statistics | python, pyplot, pandas, numpy

- Utilized advanced data manipulation techniques with **pandas** to process four decades' worth of intricate airplane strike statistics and used the **pyplot** collection within python to visualize the data.

Mogulator | Python, React, OpenCV, dlib, keras, MediaPipe, Flask

- Implemented **Flask** to integrate a **Python server** with a **React** frontend, enabling real-time streaming of processed drone video feeds for dynamic web interactions.
- Utilized **OpenCV**, **MediaPipe**, and **Keras** to develop algorithms for real-time facial detection and landmark analysis in a computer vision-driven interactive application.

TECHNICAL SKILLS

Languages: C, C++, Java, Javascript, HTML, CSS, Python, Dart, R, OCaml, MIPS Assembly, Bash

Frameworks/Tools: React, Pyplot, Pandas, NumPy, Firebase, NoSQL, OpenCV, MediaPipe, Flask