Jack M. Liu

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Education

University of Virginia, Charlottesville, VA   May 2023
B.S. in Computer Science, B.A. in Mathematics   3.98 GPA

Thomas Jefferson High School for Science and Technology, Alexandria, VA   June 2019

Relevant Coursework

Operating Systems, Advanced Software Development, Algorithms, Machine Learning, Network Security, Compilers, Database Systems, Computer Vision, Artificial Intelligence, Penetration Testing, HCI

Work Experience

Capital One – Technology Internship Program   June – August 2022
- Implemented a batch processing pipeline for an existing notification manager platform
- Developed and deployed microservices utilizing AWS DynamoDB and S3 storage, Kinesis data streaming, and event driven Lambda functions
- Practiced scrum agile development theory and tracked progress using Jira

MITRE – Homeland Security Intern Data Analytics Division   May – August 2021
- Analyzed COVID-19 vaccination data to investigate impacts of incentive programs such as Krispy Kreme's free donut program and state lottery systems
- Utilized Python to scrape web data as well as R for data processing and data visualization
- Communicated results and advice to MITRE officers and produced a whitepaper for public release

Extracurriculars

President – theCourseForum   2020 – Current
- Planned and led team meetings for theCourseForum, a student-maintained course review site used by the majority of University of Virginia students (90k+ yearly visits, 500k+ page views)
- Managed the backend infrastructure including Google Cloud, Heroku, Postgres, and Elasticsearch

Teaching Assistant – University of Virginia   2020 – Current
- Mentored peers as a teaching assistant for Operating Systems through weekly office hours
- Prepared exam review discussions as a teaching assistant for Differential Equations

Personal Projects

HoyaHacks Hackathon – NewsTrust   January 2021
- Implemented a trustworthiness scoring algorithm for Tweets based on several layers of factors
- Integrated Google's Sentiment Analysis API to flag tweets with high emotional magnitude
- Winner in HoyaHacks 2021 for "Best Use of Google Cloud"

HooHacks Hackathon – Epidemic Simulator   March 2020
- Created a javascript based interactive epidemic simulator based on the SIR model
- Winner in HooHacks 2020 for "Best Data Science Hack"

Languages and Skills

Java, Python, C++, R, JavaScript, HTML, CSS, Machine Learning, Unix/Linux, Docker, and Git