Jack M. Liu

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Education

University of Virginia, Charlottesville, VA May 2023
Bachelor of Science in Computer Science 3.97 GPA

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

Relevant Coursework

Advanced Software Development, Algorithms, Machine Learning, Computer Architecture, Compilers, Database Systems, Computer Vision, Artificial Intelligence, Cybersecurity, HCI

Work Experience

MITRE – Homeland Security Intern Data Analytics Division May – August 2021

- Analyzed COVID-19 vaccination data to investigate the impact 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

Academy of Excellence – Computer Science Instructor 2020 – Current

- Taught object orientated programming fundamentals to middle and high school students
- Revamped Java and Python curriculum to facilitate student learning and retention

Rohvi – Python Intern Spring 2020

- Automated mailing label and receipt generation using RESTful APIs and the requests library
- Created unit tests and documentation for future code base maintainability

Extracurriculars

Vice President of Infrastructure – theCourseForum 2020 – Current

- Led the backend development team for theCourseForum, a student-maintained course review site used by the majority of University of Virginia students
- Deployed the website using Google App Engine and Heroku with a Postgres database

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"

Comparing Neural Network Music Generation Effectiveness Across Genres 2017 – 2018

- Developed a compression scheme to convert music into a condensed text representation
- Trained a LSTM recurrent neural network to compose new music based on different genres

Languages and Skills

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