William Liao

Computer Science & Mathematics @ UMD
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Education

University of Maryland, College Park College Park, MD (Aug. 2020 –)

- Bachelor of Science - BS, Computer Science with Honors (Expected May 2024)
- Bachelor of Science - BS, Mathematics (Expected May 2024)
- Minor in Computational Finance
- Banneker/Key (Full Ride) Scholarship Recipient
- GPA: 3.92
- Relevant Coursework - Machine Learning, Probability Theory, Theory & Methods of Statistics, Cryptography, Data Science, Theory of Computation, Algorithms, Programming Languages, Computer Systems, Discrete Structures, Linear Algebra, Calculus I-III

Work Experience

Amazon
Software Development Engineer Intern Seattle, WA (Jun. 2023 – Aug. 2023)

- Incoming

Capital One
Software Engineer Intern (Technology Internship Program - Center for Machine Learning) McLean, VA (Jun. 2022 – Aug. 2022)

- Designed and implemented dataset access service using Flask and AWS DynamoDB for real-time model serving platform.
- Trained and optimized an XGBoost machine learning model for credit card fraud detection; used Dask for parallel processing of large datasets.
- Deployed model onto production Kubernetes-based platform for use as an highly available API microservice.

University of Maryland
Teaching Assistant College Park, MD (Aug. 2021 –)

- Led discussion/lab sections to reinforce class concepts and introduce extra material.
- Held office hours and worked with students to strengthen their understanding, clarify confusions, and inspire further inquiry.
- Graded projects and exams; provided feedback to students.
- Classes TAed: CMSC216 - Intro. to Computer Systems - C, pointers, dynamic memory management, I/O, MIPS Assembly, process control, threads, concurrency, Linux/Unix system.

nth Solutions, LLC
Software Developer Intern Exton, PA (Jan. 2019 – Jul. 2020)

- Developed a user-facing dashboard using Java and JavaFX that facilitates communication of data between an IMU(Accelerometer, Gyroscope, Magnetometer) module and a computer. Dashboard is also responsible for configuring the module for data collection and processing the recorded data.
- Implemented a JavaFX Graph / Media Player into the dashboard that enables the visualization of IMU motion data synchronized with recorded video of IMU module's movement.

Projects, Activities, and Awards

Lakers Analysis Project (Apr. 2022 - May. 2022)

- Analyzed historical NBA team data using statistical and data science techniques to explain Lakers' underperformance relative to expectations in 2022.
- Created visualizations using seaborn and matplotlib to aid in exposition.

OCaml Interpreter (Nov. 2021)

- Wrote a lexer, parser, and interpreter for a subset of OCaml in OCaml.
- Applied functional programming paradigms and techniques throughout (tokenization, abstract syntax tree construction, etc.).

Skills

Programming Languages Proficient: Python, C, Java; Familiar: OCaml, C++, Rust, Racket, Scheme
Technical Skills NumPy, Pandas, Scikit-learn, XGBoost, Dask, Matplotlib, Jupyter, MATLAB, LaTeX
Kubernetes, Docker, Flask, AWS s3, AWS DynamoDB, JavaFX, VSCode, Git, Agile Dev.