Lawrence Wang

lxwang@umich.edu | 650-336-5187 | wanglarry.com | Princeton, NJ

Education

University of Michigan **August 2020 – May 2024** (Expected)
Bachelor of Science in Computer Science; 3.91/4.0 GPA *Ann Arbor, MI*
Minor in Business (Stephen M. Ross School of Business)

- **Relevant Coursework:** Data Structures and Algorithms, Machine Learning, Web Systems, Computer Security, Computer Vision, Computer Organization, Discrete Mathematics, Linear Algebra, Multivariable and Vector Calculus
- **Honors:** James B. Angell Scholar (All "A" record for 3 Consecutive Terms) and University Honors

Experience

Capital One **June 2022 – Present**
Software Engineering Intern *McLean, VA*

- Integrated a new data compute architecture for a real time anomaly detection product. Utilized Apache Presto's distributed SQL query engine to provide more functionality and improve efficiency when querying data from Cassandra and PostgreSQL
- Constructed an AWS Elastic MapReduce cluster using Jenkins to provide an infrastructure that hosts Apache Presto
- Utilized Apache Superset to generate a dashboard for end users showing anomalous behavior from real time query results
- Incorporated SSL/TLS, HTTPS, and password file authentication for secure client connection to the Presto server and secure internal node communication between the cluster nodes to prevent vulnerabilities
- Operated in an Agile workflow by creating Jira stories on a Kanban board and participating in weekly scrum meetings

University of Michigan EECS Department **January 2022 – Present**
Teaching Assistant (Data Structures and Algorithms) *Ann Arbor, MI*

- Assisted professors organize and teach a course with 900+ students per semester covering core computer science concepts
- Hosted weekly discussion sessions with 30+ students to review lecture material and walkthrough sample exam problems
- Organized 5+ office hours per week to answer conceptual questions, visualize algorithms, help students evaluate program design choices for efficiency, and debug code for class projects

Consumers Energy **May 2021 – August 2021**
Information Technology Intern *Jackson, MI*

- Architected a new reporting method for software deployments by integrating Microsoft System Center Configuration Manager (SCCM) and company asset data on ServiceNow to generate a final daily deployment report through a Python script
- Utilized Microsoft Power BI to generate visualizations of the final deployment report for daily operations review
- Decreased report generation time by ∼90% to ultimately save 10 hours of manual data processing per deployment

Projects

In-Browser Facial Recognition **2022**

- Researched and designed a facial recognition model based on FaceNet for a final project with 3 groupmates
- Trained a deep CNN architecture with a triple loss function and stochastic gradient descent on L2 normalized facial embeddings using Keras and Tensorflow
- Built a web page that makes client-side face detection and back-end face recognition using Flask and OpenCV

Evaluating Michigan Redistricting Proposals **2021**

- Implemented a Python script that partitions and analyzes the Michigan 2020 election voting data by state precincts
- Performed analysis checks on maps using collected voting data along with scripts from Duke University's Quantifying Gerrymandering group to determine map fairness

Euchre **2021**

- Designed and developed a command line C++ implementation of the Euchre card game for up to 4 players
- Incorporated object-oriented programming design, such as inheritance and polymorphism, to allow functionality for both human players and AI bots to play the game

Leadership and Activities

University of Michigan Science Olympiad | Operations Officer **Aug 2020 – Present**
Montgomery EMS | Volunteer Emergency Medical Technician **Feb 2018 – Present**

Skills

Technical Skills:
C++ · Python · Java · SQL · Apache Presto · Apache Superset · AWS (S3, EC2, EMR) · HTML/CSS · ReactJS · TypeScript
Git · Agile Development
Languages:
English (fluent) · Mandarin (working proficiency)