Shannon Lau

Software Engineer

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EDUCATION

University of Michigan

MAY 2022 // ANN ARBOR, MI

B.S.E Computer Science,
Summa Cum Laude

Minor in
Multidisciplinary Design

4.00 / 4.00 — Major GPA

RELEVANT COURSEWORK

Engineering Interactive Systems
EECS 598

Human-Centered Software
EECS 497

Web Systems
EECS 485

Operating Systems
EECS 482

Software Engineering
EECS 481

SKILLS

Languages
Python, C / C++, Java, JavaScript (ES6), Typescript, HTML5, CSS / Sass, SQL, Scheme

Libraries & Frameworks
React, AngularJS, Vue, Flask

Tools & Platforms
Git, Bash, Jira, Firebase, MongoDB, AWS Lambda

HONORS

Marian Sarah Parker Finalist
UNIVERSITY OF MICHIGAN

OxyGEN Scholar Recipient
AT&T

Grace Hopper Scholar
CAPITAL ONE

EECS Scholar Recipient
UNIVERSITY OF MICHIGAN

Dean's Honor List &
University Honors
UNIVERSITY OF MICHIGAN

SWE Summiteer Recipient
CAPITAL ONE

EXPERIENCE

Meta — Software Engineer Intern

AUGUST – NOVEMBER 2021 // PITTSBURGH, PA

- Optimized 3D capture to build VR telepresence for Reality Lab's Codec Avatars.
- Implemented **C++** lossy image algorithms and scripted **Python** benchmarks to select the most optimal algorithm in speed, space, and image quality, saving 95% space per image.

Microsoft — Software Engineer Intern

MAY – AUGUST 2021 // SEATTLE, WA

- Built and tested critical user-editing features for Microsoft's new upcoming productivity app, ensuring functionality and customizability with **React, Typescript, and Sass**.
- Optimized our median reliability rate to 99.99% by identifying and resolving telemetry bugs, in coordination with feature owners, product managers, and other developers.
- Visualized app performance and resilience metrics extensively using the company's internal data tooling, enabling leadership to gauge the app's usage for the first time.

Comau — Software Engineer Researcher

JANUARY – DECEMBER 2020 // ANN ARBOR, MI

- Architected and implemented a bin-packing heuristic in **C++** that identifies items' optimal placement locations, maximizing capacity to 75% and speeding up company automation.
- Created a command-line interface for the robotic system that enables users to visualize item placements and future potential placements step-by-step, powered by **Processing**.

Capital One — Software Engineer Intern

JUNE – AUGUST 2020 // CHICAGO, IL

- Developed an **AWS Lambda** back-end API with **Python** that transforms 3,000+ customer calls each day into visualizable data for Sage, Capital One's call assessment platform.
- Built and integrated experience-elevating features into Sage's audio player platform with **AngularJS** and **D3.js**, including: dual-speaker waveform visualization to distinguish the active speaker, dynamic transcript interface, and smart audio-scrubbing.
- Interfaced with designers, product managers, and other developers in **Agile** sprints to ensure functional and thoughtful user experiences for each voice-based application.

FEATURED PROJECTS

Touch Connect Four

JANUARY – FEBRUARY 2020

- Innovated a multi-touch pad device that optically recognizes finger contours and translates movements to gestures for Connect Four moves on the built-in app.
- Developed as a proof-of-concept for budget touch technology using **OpenCV** in **Python**.

UFO

JANUARY – APRIL 2019

- Launched a high-altitude device 26,822 meters into the stratosphere to measure and store pressure, temperature, humidity, UV index, and GPS data for weather analysis.
- Built with a custom PCB, **Arduino**, I2C & UART sensors, and robustly tested encasing.

INVOLVEMENT

University of Michigan, EECS — Teaching Assistant for Data Structures & Algorithms

AUGUST 2020 – MAY 2021 // ANN ARBOR, MI

- Helped professors teach 900+ students by instructing labs, answering online questions, writing and evaluating exams, and holding office hours to guide students one-on-one.
- Deepened students' understanding of best coding practices, debugging tools, and core concepts, including stacks, queues, trees, hash tables, and dynamic programming.

University of Michigan Ultimate Frisbee

SEPTEMBER 2018 – MAY 2022 // ANN ARBOR, MI

- Mentored and competed alongside driven women on a nationally-ranked D-I team.
- Gear Coordinator: Designed jersey kits and apparel for 50 players and coaching staff.