Yinghao (Max) Liu

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EDUCATION

University of Michigan (GPA: 3.87) **Ann Arbor, MI**
B.S. in Computer Science and Data Science, Minor in Math and EE June 2022 - May 2025
- Tau Beta Pi, MRover, Michigan Blockchain, Core Engineer of FreshReminder(Start-up), MCBC

University of California, Irvine (GPA: 3.86) **Irvine, CA**
B.S. in Computer Science and Engineering September 2020 - June 2022
- Tau Beta Pi, Campuswide Honors Collegium

TECHNICAL SKILLS

Programming languages: Python, C++, Java, JavaScript, Typescript, Swift, C, HTML/CSS, SQL, Shell, Bash
Frameworks and Libraries: React.js, Express.js, React Native, Next.js, Vue.js, Node.js, Spring Boot, TensorFlow, PyTorch, Pandas, Numpy, Keras, Beautiful Soup, Cypress, Puppeteer, Jasmine, Lighthouse, ROS
Technologies: AWS, GCP, Firebase, MongoDB, PostgreSQL, Firebase, Docker, Kubernetes, Git, CI/CD, Ansible

EXPERIENCES

LinkedIn Sunnyvale, California
Incoming Software Engineering Intern June 2024 - August 2024

MMINT Lab, University of Michigan Ann Arbor, Michigan
Research Assistant March 2023 – Present
- Automated segmentation masks extraction and 3D reconstruction using **Open3D**, **OpenCV**, and **NumPy** on **ROS**, developed **ROS** packages and services to integrate pipeline into larger scope projects.

Information and Technology Services, University of Michigan Ann Arbor, Michigan
Software Engineering Intern May 2023 - August 2023
- Developed a Docker containerized full-stack web application for Wi-Fi analytics utilizing **Vue.js**, **Typescript**, **Django**, and **MongoDB**. Configured Docker cluster and orchestrated **Ansible** playbooks to feed job data to **Raspberry Pi** probes.
- Engineered wireless access point scanning procedures and integrated Layer 2/Layer 3 authentication on **Raspberry Pi** using **wpa supplicant** and **DHCP** for perfSONAR.
- Created a daemon microservice responsible for service configuration validation, job batch generation, schedules with **cron**, and execution. Enhanced processes with **RegEx** and **Ansible**-based infrastructure provisioning, resulting in a 30% runtime improvement.
- Collaborated with perfSONAR developers on pull requests and undertook code review responsibilities.

Pixpher LLC Fort Wayne, IN
Software Development Intern June 2022 – August 2022
- Architected and implemented a full-stack scalable mobile application to have 1000+ users that connects freelance photographers to customers using **React Native**, **Express.js**, and **MongoDB**.
- Migrated the backend services from **Spring Boot** to **Express.js**, successfully implementing crucial functionalities including user authentication, event scheduling, and profile customization.
- Conceptualized and designed features of the mobile application's **RESTful API**. Tested API and improved runtime efficiency by 10%.

PROJECTS

Insta Clone June 2023 – August 2023
- Implemented a containerized Instagram clone, leveraging **AWS** skills, including **RDS PostgreSQL**, **S3**, and **CloudFront** for resource management and uploads.
- Leveraged **AWS CloudFormation** for cloud infrastructure provisioning, set up **load balancers**, and established security groups on **AWS EC2**. Orchestrated a **CI/CD** pipeline via **GitHub** Actions, facilitating **Docker** image pushes to **AWS ECR**, task definition registrations, and application deployment on **AWS ECS** using **AWS Fargate**.

MiNap June 2023 – August 2023
- Built a smartwatch iOS app and a companion mobile app for UM medical school to record sleep study data with **GraphQL API** on **AWS DynamoDB** and **AWS DataStore**.
- Delivered a **Docker** containerized microservice that synchronizes data between the medical school's **Oracle SQL** Database and **AWS DynamoDB** with customizable scheduling.