Sze Yan How

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Education

Georgia Institute of Technology — Atlanta, GA
Master in Science in Computational Science and Engineering, GPA 3.75 — *September 2023 - June 2025*
- Coursework: Algorithms, Object Oriented Programming, DBMS, Computer Network, Operating Systems

University of Michigan at Ann Arbor — Ann Arbor, MI
Master in Science in Civil Engineering, GPA 3.89, Tishman Scholar Receipient — *August 2022 – July 2023*

University of Edinburgh — Edinburgh, United Kingdom
BEng (Hons) Civil Engineering, First-class Honours(GPA 4.0 equivalent) — *September 2018 – May 2021*

Experience

Software Engineer Intern — May 2024 – Present
Georgia Tech Open Source Program Office (Partnered with IBM) — *Atlanta, GA*
- Advanced the Open Horizon management tool, integrated **KubeArmor** to streamline the deployment of scalable, distributed edge systems, enabling the management of **over 10,000 nodes**.
- Evaluated and standardized **over 20** service examples, implementing multi-architecture builds in **Docker** and deploying via **Kubernetes**, enhancing service compatibility and deployment efficiency by **70%**.
- Conceptualized and implemented a new Open Horizon service using **Python Flask**, featuring a Node UI for deploying node services and displaying all active local services, improving transparency and management efficiency by **35%**.

Graduate Research Assistant — August 2022 – May 2023
University of Michigan — *Ann Arbor, MI*
- Engineered discrete event simulation models using **C++** to analyze human-robot collaboration in construction work, enhancing productivity by **40%** and reducing project completion time by **30%**.
- Devised and validated five algorithms to optimize human-robot collaboration, cutting idle times in masonry operations by **30%**, and generating cost savings of **30%**.
- Investigated the use of **Solidity** for smart contracts in compliance assessments, improving transparency and efficiency in project execution, reducing compliance-related delays by **50%**.

Platform Experience Analyst — August 2021 – August 2022
Accenture — *Kuala Lumpur, Malaysia*
- Refined digital content filtering processes using **Python**, enhancing algorithm accuracy by **50%**, which streamlined operational efficiency and predictive capabilities, cutting manual review time by **30%**.
- Developed an advanced detection system for harmful content on client websites, bolstering site protective measures and user safety, reducing instances of dangerous content by **over 1,000** daily, and increasing user trust by **20%**.

Projects

MERN Stack AI Chatbot | *MongoDB, Express.js, React, Node.js, OpenAI* — April 2024
- Developed an AI Chatbot application using the MERN stack and OpenAI API, incorporating features to store, retrieve, and delete each user message in the database for a personalized experience.
- Ensured application security by using JWT Tokens, HTTP-Only Cookies, Signed Cookies, Password Encryption, and Middleware Chains.

Library Management System | *ASP.NET Core, C#, SQL Server, Entity Framework* — February 2024
- Built a web application for managing library books, members, and borrowing records using ASP.NET Core and SQL Server, implemented CRUD operations for books, members, and borrow records with Entity Framework.

CLI Builder | *C, C++* — December 2023
- Constructed a command-line interface (CLI) library using the ncurses library, with features like auto-completion, command history, and help commands, developed and tested on Linux, with potential compatibility for Windows.

Technical Skills

Languages: Java, Python, C/C++, C#, SQL (Postgres), JavaScript, HTML/CSS, R, Golang, Scala
Frameworks: React, NodeJS, Express, Django, AWS, Spring Boot, Github workflows (CI/CD), Wordpress
Tools: DevOps, Docker, Git, Kafka, Linux, MySQL, MongoDB, Power BI, Shell (Bash/Zsh), Redis, Unix, Vim