

Leong Yu Zhi Andy

Full Stack Development | DevOps | Cybersecurity

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Summary

Highly motivated full stack developer with expertise in DevOps and Cybersecurity. Passionate about creating secure, scalable solutions and systems that solve real-world problems. Extensive experience with diverse technologies including React, Express, and Spring for application development, and AWS and Azure for cloud infrastructure. Skilled at integrating security best practices into the development lifecycle, ensuring robust application and infrastructure security. Proficient in DevOps practices including CI/CD pipelines, containerization with Docker, orchestration with Kubernetes, and infrastructure as code using Terraform.

Skills Info:

Full Stack Development

- Proficient in designing and developing full-stack web applications using modern technologies such as HTML, CSS, JavaScript, React, Node.js, and Express.js.
- Experience in working with various databases like PostgreSQL, MySQL, and MongoDB to store and retrieve data efficiently.
- Skilled in integrating frontend and backend components seamlessly, ensuring smooth user experiences and optimal performance across different devices and platforms.

DevOps

- Strong knowledge of DevOps principles and practices, including continuous integration and continuous deployment (CI/CD), infrastructure as code, and automated testing.
- Advanced experience with cloud platforms such as AWS and Azure, utilizing services like AWS Lambda, AWS S3, AWS ECS, AWS EKS, and Azure VM to deploy and manage applications effectively.
- Proficient in containerization with Docker and container orchestration with Kubernetes, managing microservices architecture and scalable deployments.
- Skilled in using infrastructure as code tools like Terraform to automate and streamline infrastructure provisioning and management.

Cybersecurity

- Understanding of fundamental cybersecurity concepts, including network security, vulnerability assessment, and threat mitigation techniques.
- Participated in capture the flag (CTF) challenges and workshops, gaining hands-on experience in identifying and exploiting vulnerabilities in simulated environments.
- Knowledge of secure coding practices and the ability to identify and remediate potential security risks in application development processes.
- Experience in reverse engineering and pwn techniques as developed through CTF competitions

Areas of Expertise

Front-End Development: HTML | CSS | JavaScript | React | TailwindCSS | Bootstrap | MUI | Radix UI

Backend Development: Node.js | Express.js | NextJS | Python | tRPC | TypeScript | SocketIO | Spring Boot

Cloud Computing: AWS Lambda | AWS S3 | AWS ECS | AWS EventBridge | Azure VM | Docker | Terraform | AWS EKS | Kubernetes

Database Management: PostgreSQL | MySQL | MongoDB | MS SQL | TIDB | RDS

Professional Experience

Data Engineer Intern
MOH Office for Healthcare Transformation (MOHT)
Sept 2024 - Present (Hybrid)

Currently serving as a Data Engineer Intern, contributing to healthcare transformation initiatives
Working with data engineering technologies to support healthcare innovation projects such as Kubernetes.

Projects

PracticeMe **May 2023 - Current**

Project Link: <https://socpracticeme.vercel.app/>

- Co-Developed with a group of students to create a full stack gamified website fork of a command line tool aimed at helping SP students to enhance their Javascript skills.
- Utilised the NextJS framework, with PusherJs as a Websocket service and MongoDB as the database and Sanity CMS to push announcements more efficiently.
- Currently maintaining the project for future batches to be used in their Fundamentals of Programming module.

Project INC **Sep 2023 - Current**

- Worked with 11 other students using the agile scrum methodology to deliver a full-stack digitalised solution for Institute of Management Consultants (Singapore) (IMCS) that will serve up to 500 users.
- Utilised the T3 stack, consisting of NextJS, tRPC, Prisma, TailwindCSS and Typescript while deploying on the AWS cloud using Docker and Terraform.

NLP2SQL Chrome Extension **Nov 2024 - Mar 2025**

- Developed a Chrome extension that converts natural language questions into SQL queries for Metabase charts using Claude's model context protocol.
- Implemented an NLP pipeline that processes user questions and generates appropriate SQL syntax for data visualization.
- Enhanced data analytics accessibility for non-technical users by providing an intuitive natural language interface.

Mindline.sg Article Recommendation System **Mar 2025 - Mar 2025**

- Created a Chrome extension for serving personalized article recommendations on mindline.sg using two different approaches:
- Version 1: Implemented a Python-based Implicit Alternating Least Squares (ALS) collaborative filtering algorithm
- Version 2: Leveraged AWS Personalize service for enhanced recommendation capabilities

Academic Qualifications

Singapore Polytechnic **Apr 2022 - Apr 2025**

Diploma in Information Technology

Achieved Distinction In: Fundamentals of Programming, Fundamentals of Computing, Backend Development

Current CGPA: 3.70

Anglo-Chinese School (Barker Road)

Jan 2019 – Dec 2021

GCSE 'O' Level

L1R5: 13 | L1R4: 9

Awards & Achievements

Top in Cohort for 'O' level Computing	2021
Sentinel Program SHIELD Award	2024
6th place in Lag and Crash CTF	2024
Top 10 in CDDC Brainhack CTF 2024	2024
Top 10 in SMU Whitehacks 2025	2025

Certificates

Hackerrank SQL Basic	2023
Hackerrank SQL Intermediate	2023
Hackerrank Python Basic	2023
Hackerrank Javascript Basic	2023
Sentinel Programme Cyber Data Analysis	2023
Sentinel Programme Network Forensics	2023
Sentinel Programme Malware Analysis	2023
Sentinel Programme Cyber Threat Intelligence	2023

Co-Curricular Activities

SEED Student Interest Group – Singapore Polytechnic **May 2022 - Current**

Project Manager

- Involved in organising workshops and competitions for students' enrichment in the computing sector.
- Led administrative efforts for events and workshops, ensuring seamless execution of the planned activities.

Gryphons Student Interest Group – Singapore Polytechnic **May 2023 - Apr 2024**

Member

- Involved in creating CTF (Capture the flag) challenges such as Gryphons CTF 2023.

SP Table Tennis – Singapore Polytechnic **Apr 2023 - Current**

Captain (2023 - 2024)

Vice President (2024 - Current)

- Successfully worked with and led the team to win the inter-school championship (PoLITE) for two consecutive years.

ACSBR Table Tennis – Anglo-Chinese School (Barker Road) **Feb 2019 - Oct 2021**

Captain

- Successfully led the team to achieve top 3 in the Inter-school zonals competition for 2 years.
- Implemented a basic physical training program for the members during the Covid-19 period.