

# XAVIER KOO

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## EDUCATION

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### SINGAPORE MANAGEMENT UNIVERSITY (SMU)

Aug 2021 – May 2025

#### *Bachelor of Science (Information Systems)*

- Penultimate Undergraduate with Double Major in Digitalisation & Cloud Solutions (Software Design & Development) and Computer Science (Artificial Intelligence).
- **Coursework:** Data Management (SQL), Web Application Development (Bootstrap, Vue.js), Computational Thinking (Python), Object-Oriented Programming (Java), Enterprise Solution Development (Docker, AMQP, Systems Design)

## EXPERIENCE

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### ASTERISK TECHNOLOGIES

Feb 2023 – Aug 2023

#### *Software Engineer*

- Ongoing Internship

### MEDIUM BLOG

Jan 2023 – Present

#### *Technical Writer*

<https://medium.com/@xavier2812>

- Authored a technical blog on software engineering, producing 33 articles covering topics such as data structures & algorithms, technologies & frameworks, and essential skills which received 2600 views and 178 followers to date.

## PROJECTS

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### LEAPAHEADX – CLIENT PROJECT: FORM MANAGEMENT SYSTEM (FMS)

<https://github.com/xavierkoo/leapaheadx>

- Collaborated with 4 developers to build an FMS for a client company to digitalize the form management process.
- Utilized **Vue.js/Vite**, **Bootstrap** and **Sass** for the front-end and **Java Spring Boot & MySQL** for the backend, employing **OOP** principles for scalability & maintainability. **Docker** was used to containerize the application for ease of deployment.
- Designed **UML**, **ERD & Use Case** Diagrams for a thorough understanding of project scope and requirements.

### GREENVENTURE – MICROSERVICES-BASED ARCHITECTURE

<https://github.com/xavierkoo/greenventure-main>

- Collaborated with a team of 5 developers to create a web app incentivizing and rewarding users to recycle.
- Devised and implemented a scalable **microservices-based architecture** with **React.js**, **Express.js + Node.js**, **MongoDB**, and **Docker** and ensuring the app met functional and performance requirements.
- Configured an efficient messaging system using **AMQP** based **LavinMQ** message broker with **nodemailer** to send email notifications to users. Enhancing user engagement and seamless communications.

### SUPPORT LOCAL – FULL-STACK WEB APPLICATION

<https://github.com/xavierkoo/support-local-frontend>

- Developed a full-stack web application to serve as an eCommerce platform for local businesses, employing **Vue.js**, **Node.js**, **Express.js**, **MongoDB**. Application is deployed on **Netlify & Heroku**.
- Collaborated with a team to create a user-friendly and visually appealing frontend with **Bootstrap** and **Sass**.
- Constructed the backend of the web application independently by designing 21 **RESTful APIs**, performed integration tests using **Jest**, designed the data storage and conducted static code analysis using **ESLint**.

## LANGUAGES & TECHNOLOGIES

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- **Languages:** HTML | CSS | Sass | JavaScript | Python | Java
- **Frameworks/Libraries:** React.js | Vue.js | Bootstrap | Express.js | Node.js | Electron.js | Spring Boot | Jest
- **Databases/Tools:** MySQL | MongoDB | Docker | Git | IntelliJ | ESLint | AMQP | Vite | Jira | Figma | Heroku | Netlify

## CERTIFICATIONS

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- Oracle Certified Foundations Associate, Java.
- University of Helsinki Full Stack Open – Full Stack Web Development.
- Heicoders Academy AI200: Applied Machine Learning.

## **CO-CURRICULAR ACTIVITIES & COMMUNITY SERVICE**

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### **SMU VIVACE CCA FAIR – Org. Committee Internal Communications Associate**

**May 2022 – Aug 2022**

- Organised Vivace for 4500 participants and facilitated communications between the committee and 153 CCAs.

### **KIDLEIDOSCOPE 2021**

**Aug 2021 – Dec 2021**

- Conducted a community service project working with underprivileged children through games and crafts.