

Low Zhe Kai

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Availability: 6 May 2024 – 16 August 2024

EDUCATION

University of California, Berkeley

GLOBE Exchange student

Berkeley, CA

2023 – Present

Nanyang Technological University – Renaissance Engineering Program

BSc. in Computer Science, MSc. in Technology Management, Minor in Mathematics

Singapore

2021 – 2025 (Exp.)

- Cumulative Grade Point Average (CGPA): **4.85/5.00**
- Recipient of the Renaissance Engineering Program Scholarship (REPS)
- **Relevant modules:** Computer Security, Artificial Intelligence, Operating Systems, Databases, Data Science, Advanced Data Structures & Algorithms, Software Engineering, Object-Oriented Programming

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, HTML/CSS, SQL (Postgres), Java, C/C++, Golang

Frameworks: Node.js, Express, Langchain, FastAPI, React, Next, Bootstrap, Tailwind, Material-UI

Developer Tools: Microsoft Azure, Docker, Git, Github, Gitlab, Vercel, Heroku, Copilot

Libraries: OpenAI, scikit-learn, pandas, NumPy, Matplotlib, librosa, Seaborn, spacy, pytesseract

PROFESSIONAL EXPERIENCE

Better.sg – CheckMate

Software Engineer

Aug 2023 – Present

- Developing a full-stack web application to facilitate message verification by a team of checkers
- Implemented the frontend using **React.js** and backend with **Firebase**

Central Provident Fund Board

Software Engineer (Intern)

May 2023 – Aug 2023

- Led the backend design and development of a question-answering system (*CHATCentral*) that is driven by **LLMs** (GPT-4 etc.) and integrates the **Retrieval Augmented Generation (RAG)** model architecture
- Utilized **Python** to leverage state-of-the-art LLM frameworks, including **Langchain** and **ReAct agents**, to create a robust and scalable system
- Successfully deployed API endpoints for internal use, using **Docker** for containerization and **Microsoft Azure** for cloud-based services
- Initiated and built a full-stack web application to manage and test prompts using **Next.js** and **FastAPI**

Space (MedTech)

Data Analyst (Intern)

Jun 2022 – Dec 2022

- Developed a machine learning model to detect crepitations in lung sounds, achieving an accuracy of 92%
- Applied signal processing techniques, data visualisation, and machine learning algorithms (SVM and KNN) on real patient data using **Python**, **librosa**, **pandas**, and **scikit-learn**
- Proposed and implemented a novel detection method utilising the information entropy of signals, reducing the computational time by 40%

PROJECTS

lowzhekai.com | *TypeScript, React, Next, CSS, Tailwind, Material-UI, Git*

- Integrated responsive design, UI/UX best practices and state management in a personal portfolio website using **Next.js** and **Material-UI**, hosted on **Vercel**

LEADERSHIP

Renaissance Engineering Program Jam Band

Co-head

- Organized a fundraising concert and raised over \$20,000 for those affected by the 2023 Turkey-Syria Earthquake

Singapore Civil Defence Force – Bishan Fire Station

Rota Commander (Lieutenant)

- Led a team of 30 firemen to respond to fire and rescue emergencies