Low Zhe Kai

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EDUCATION

University of California, Berkeley — Berkeley, CA
GLOBE Exchange student — Aug 2023 – May 2024
- **Relevant modules**: Machine Learning, Artificial Intelligence, Computer Architecture, Computer Security, Efficient Algorithms and Intractable Problems

Nanyang Technological University – Renaissance Engineering Program — Singapore
BSc. in Computer Science, MSc. in Technology Management, Minor in Mathematics — Aug 2021 – Dec 2025 (Exp.)
- Grade Point Average (GPA): **4.85/5.00**
- Recipient of the Renaissance Engineering Program Scholarship (REPS)
- **Relevant modules**: Operating Systems, Databases, Data Science, Data Structures & Algorithms, Software Engineering, Object-Oriented Programming, Statistics, Probability, Linear Algebra, Calculus

TECHNICAL SKILLS

Languages: Python, C++, JavaScript, TypeScript, HTML/CSS, SQL, NoSQL, Java, C, Golang
Frameworks: Node.js, Express, Langchain, React.js, Next.js, FastAPI, Tailwind, Material-UI
Developer Tools: Firebase, Microsoft Azure, Docker, Git, Github, Gitlab, Vercel, Heroku
Libraries: TensorFlow, scikit-learn, pandas, NumPy, Matplotlib, librosa, seaborn, spacy, pytesseract

PROFESSIONAL EXPERIENCE

TikTok — May 2024 – Present
Machine Learning Engineer (Intern)
- Working on the **recommendation system** for TikTok livestreams
- Analyzed and improved upon state-of-the-art **TensorFlow** neural networks to improve the calibration of various predictions such as dislikes
- Deployed models online for AB Testing and achieved a 3% increase in gifting

Central Provident Fund Board — May 2023 – Aug 2023
Software Engineer (Intern)
- Led the backend development of a **Retrieval Augmented Generation** system to answer customer queries
- Utilized LLM frameworks like **Langchain**, along with modern techniques such as **Multi-Agent Systems** and **few-shot learning** for a robust, versatile system
- Successfully deployed API endpoints that are currently live on the CPF website with **FastAPI**, using **Docker** for containerization and **Microsoft Azure** for cloud-based services

Space (MedTech) — Jun 2022 – Dec 2022
Machine Learning Engineer (Intern)
- 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

CheckMate, Better.sg | *React.js, Firebase, Express, Git*
- CheckMate is a non-profit that combats misinformation by providing a fact checking WhatsApp service
- Developed a Telegram Mini App that is currently used to facilitate message verification by a team of checkers

Portfolio Website | *TypeScript, React, Next, CSS, Tailwind, Material-UI, Git*
- Integrated responsive design, UIUX best practices and state management in a personal portfolio website using Next.js and Material-UI, hosted on Vercel

Music Genre Classification Model | *scikit-learn, pandas, Matplotlib, seaborn, Python, Git*
- Implemented a music genre classification model using exploratory data analysis, signal processing, and machine learning techniques, achieving high accuracy with an XGBoost model

Healthier Choice Mobile Application | *REST APIs, Express, Node.js, PostgreSQL, Heroku*
- Developed a REST API for a mobile application that displays and sells Healthier Choice products