

Zhiyang Lu

+65 8801 6745 | e0960258@u.nus.edu | [linkedin.com/in/zhiyanglu](https://www.linkedin.com/in/zhiyanglu) | github.com/alfaloo

EDUCATION

National University of Singapore

Jul 2022 – Present

Bachelor of Computing in Computer Science @ NUS College, GPA: 4.88/5.00

Singapore

- **Awards:** Dean's List AY2023/24 Semester 2, NUS College International Scholarship.

Rangitoto College

Jan 2017 – Nov 2021

International Baccalaureate DP, Grade: 45/45 (Valedictorian / Dux Litterarum)

Auckland, New Zealand

ACHIEVEMENTS

NZ International Mathematical Olympiad Squad Member

2021

New Zealand Mathematical Olympiad Committee

Auckland, New Zealand

- Selected as one of 12 representatives for New Zealand to compete in international level maths Olympiads.
- Honourable Mention in Asian Pacific Mathematical Olympiad, Silver Medal in New Zealand Mathematical Olympiad, Bronze Medal in Australian Mathematical Olympiad.

NZQA Outstanding Scholar

2020 & 2021

New Zealand Qualifications Authority

Auckland, New Zealand

- Ranked top 50 among a national cohort of roughly 160,000 students.
- Outstanding pass in Calculus, Physics, and Chemistry. Scholarship pass in English.

EXPERIENCE

Quantitative Developer

May 2024 – August 2024

Octava Digital Assets

Singapore

- Researched and developed crypto asset trading strategies ranging from technical forecasts, sentiment analysis, and regression/machine learning approaches.
- Established an efficient and comprehensive pipeline to evaluate trading strategy performance which integrates into the existing portfolio allocation infrastructure.
- Conducted extensive analysis on macro factors that potentially influence the price action of crypto portfolios.
- Deployed a cloud-based application that monitors daily price movements, generates a PDF containing statistics and visualised charts, and emails the portfolio performance report to investors.

PROJECTS

CryptograFace, Encryption via Facial Biometrics | C++, Python, OpenCV, Dlibs, MediaPipe, Crypto++, Qt

- Stores a directory of text-based information and visual digital canvases created by tracking user hand gestures and finger movements within a live camera feed.
- Encrypts user data using the Advanced Encryption Standard, ensuring confidentiality and authenticity.
- Facial biometrics authentication system ensures high precision by employing deep learning models.
- Dynamic graphical user interface built with multi-threaded architecture to guarantee responsiveness.

InterviewAce, AI Technical Interviewer | Python, Flask, React.js, OpenAI, PyAudio

- Live Coding Environment allows candidates to write, compile, and execute code in real-time.
- AI-driven transcription achieves real-time language processing to create immersive interview experience.
- Optimised platform responsiveness with advanced audio libraries and efficient asynchronous JavaScript calls.
- Integrated live video feedback provides users with an accurate simulation of an in-person interview.

Medical Management System | Python, Flask, MySQL, HTML, Bootstrap5

- Deployed full-stack web application currently in use by health-centres based in Kampong Chhnang, Cambodia.
- Designed a responsive and intuitive interface, ensuring accessibility and facilitating efficient data entry.
- Integrated SQL for robust backend database management with data validation and error handling mechanisms.
- Participated in on-site visits to study local conditions and collaborated with Water and Healthcare Foundation.

TECHNICAL SKILLS

Languages: C / C++, Java, Python

Frameworks / Libraries: OpenCV, Qt, Flask, NumPy, pandas, scikit-learn, PyTorch, Matplotlib

Developer Tools: GitHub, CLion, IntelliJ, PyCharm, Visual Studio Code, VIM