

# Zhiyang Lu

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## EDUCATION

### National University of Singapore

Jul 2022 – Present

*Bachelor of Computing in Computer Science, GPA: 4.86/5.00*

*Singapore*

- **Special Programmes:** NUS College - the honours college of NUS, Second major in Quantitative Finance.
- **Coursework:** Programming Methodology, Data Structures and Algorithms, Computer Organisation, Design and Analysis of Algorithms, Software Engineering, Operating Systems, Introduction to AI and ML

### Rangitoto College

Jan 2017 – Nov 2021

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

*Auckland, New Zealand*

- **Coursework:** Mathematics AA HL, Physics HL, Chemistry HL, English LL SL, History SL, Mandarin SL.
- **Activities:** IBDP NZ Top Scholar, Chinese Night Organisational Committee, Founder of Mathematics Club.

## 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

### Software Developer

May 2023 – Present

*NUS College Impact Experience Programme*

*Singapore*

- Developed a full-stack web application using Python Flask to address healthcare data management for centres based in Kampong Chhnang, Cambodia.
- Designed and implemented a responsive and intuitive interface with HTML and CSS Bootstrap5, ensuring accessibility and facilitating efficient data entry.
- Integrated SQL for robust backend database management with data validation and error handling mechanisms to enhance data retrieval accuracy, security, and reliability.
- Participate in overseas field trips to study local conditions and collaborate with Water and Healthcare Foundation (WAH) to bring positive impact to underserved communities.

## PROJECTS

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

Jan 2024 – Present

- Live Coding Environment allows candidates to write, compile, execute, and showcase their coding skills in real-time. Ability to choose the language and font in the virtual IDE.
- AI-driven Python Speech-To-Text & Text-To-Speech Transcription: Utilises OpenAI and Whisper for highly accurate real-time language processing, bridging the gap between verbal communication and digital interaction.
- 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.

### Monopoly Board Game Simulator | *Java*

Apr 2023 – Jul 2023

- Involves complex class design that demonstrates strong object-oriented programming language understanding through applying relevant OOP concepts such as, inheritance, polymorphism, and encapsulation.
- Acquired comprehensive knowledge and understanding of well-documented standard libraries (Java Standard Library) as well as their wide range of pre-built classes, methods, and data structures.

## TECHNICAL SKILLS

**Languages:** C / C++, Java, Python, Rust, JavaScript, HTML/CSS, SQL

**Frameworks / Libraries:** Flask, NumPy, pandas, scikit-learn, Bootstrap5

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