

# Zhiyang Lu

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## EDUCATION

<b>National University of Singapore</b> <i>Bachelor of Computing in Computer Science &amp; NUS College, GPA: 4.87/5.00</i> • <b>Awards:</b> SoC Dean's List x2, Top Students Award - AI & ML, NUS College International Scholarship.	Jul 2022 – Present <i>Singapore</i>
<b>Rangitoto College</b> <i>International Baccalaureate DP, Grade: 45/45 (Valedictorian / Dux Litterarum)</i> • <b>Awards:</b> NZQA Outstanding Scholar 2020 & 2021 - Ranked top 50 among a national cohort of 160,000 students.	Jan 2017 – Nov 2021 <i>Auckland, New Zealand</i>

## ACHIEVEMENTS

<b>NZ International Mathematical Olympiad Squad Member</b> <i>New Zealand Mathematical Olympiad Committee</i> • 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.	2021 <i>Auckland, New Zealand</i>
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## EXPERIENCE

<b>Optiver</b> <i>Incoming Software Developer Intern</i>	December 2025 - February 2026 <i>Sydney, Australia</i>
<b>DRW Holdings</b> <i>Software Developer Intern</i> • Optimised performance-critical trading component in C++ using template metaprogramming. • Improved in-house Python dependency-graph library by replacing performance critical code with C++ bindings to reduce execution-time by 30x. • Developed a new API for OpenSSL write functionality in C that supports vectored IO to reduce the number of records sent over the network (Pull Request #27768) • Implemented zipping feature in C++ that handles the creation of zip archives and file compression to automatically convert output files from npy to npz format.	May 2025 – August 2025 <i>Singapore</i>
<b>Octava Digital Assets</b> <i>Quantitative Developer Intern</i> • 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.	May 2024 – August 2024 <i>Singapore</i>

## PROJECTS

<b>CryptograFace, Encryption via Facial Biometrics</b>   <i>C++, Python, OpenCV, Dlibs, MediaPipe, Crypto++, Qt</i> • 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.
<b>InterviewAce, AI Technical Interviewer</b>   <i>Python, Flask, React.js, OpenAI</i> • 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.