

# Chua Ruifeng Ray

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## Education

### National University of Singapore

B.S. Computer Science, Minor in Mathematics

Singapore  
Aug 2024 - Aug 2028

- Relevant Coursework: Data Structures and Algorithms, Database Systems, Programming Methodology, Computer Organisation, Calculus for Computing, Linear Algebra for Computing, Probability and Statistics

## Work Experience

### GetMarked

Computational Linguistics & AI Intern

Singapore  
Dec 2025 - Present

- Engineered an automated Python pipeline using the OpenRouter API and sentence-transformers to generate structured NLP datasets across 5 languages, enabling programmatic content generation.
- Designed rigorous JSON data structures to standardize complex linguistic attributes (phonetics, semantics, parts of speech), ensuring strict data validation for the application layer.
- Collaborated with the founder to translate linguistic constraints into technical specifications, integrating RESTful APIs for model inference to architect the core data layer for algorithmic educational resources.

## Projects

### Limit Order Book (C++) | High-Performance Trading Engine

Developer

<https://github.com/stinkray77/Cpp-Limit-Order-Book>

- Engineered a low-latency matching engine in C++ utilizing `std::map` and `std::unordered_map` to enforce price-time priority execution for Limit and Market orders.
- Optimized memory management by implementing smart pointers and minimizing object copies, eliminating memory leaks and reducing overhead during high-frequency updates.
- Achieved order processing latency of **~117 nanoseconds** (p99) by leveraging compiler optimizations (-O3) and CPU-native architecture builds.

### GradWise - Academic Planning Web App | NUS Orbital 2025

Full Stack Developer

<https://github.com/lanjia0/orbital>

- Designed and deployed a React + [Node.js](https://nodejs.org/) + MongoDB platform enabling students to optimize academic planning
- Implemented secure authentication and interactive data visualizations, enhancing usability through reactive data rendering and reduced load times.

### LocationTrust - ML Review Validation Tool | Tiktok TechJam 2025

Machine Learning Developer

<https://github.com/stinkray77/LocationTrust>

- Developed an ML-powered system to detect policy violations and evaluate trustworthiness of Google reviews.
- Trained and deployed NLP classification models, achieving 85.5% accuracy in review authenticity detection.

## Skills

- **Programming Languages:** Python, Java, C/C++, JavaScript, SQL, HTML, CSS
- **Frameworks/Tools:** React, [Node.js](https://nodejs.org/), MongoDB, Firebase, Railway, Git
- **Libraries:** SentenceTransformers (SBERT)
- **Certifications:** CS50x: Introduction to Computer Science

## Leadership

### NUS Sheares Hall

Dinner and Dance (D&D) Logistics IC

Singapore  
Aug 2024 - Aug 2025

- Managed event logistics, coordinating vendors and schedules for a 200+ attendee event, ensuring smooth execution