

EDUCATION

Nanyang Technological University, Singapore

Aug 2021 – Jun 2025

- B.Eng. in *Electrical and Electronic Engineering*, Specialization: Computer Engineering
- Relevant Coursework: Data Structures and Algorithms, Computer Networks, Web Application Design, Cybersecurity, Data Science and AI, Engineering Mathematics, AI and Data Mining

SKILLS

- Programming: C/C++, Golang, Python, PostgreSQL, MongoDB, JavaScript, TypeScript, HTML, CSS, MATLAB
- Frameworks & Libraries: NextJS, ReactJS, Tailwind CSS, Material UI, TensorFlow, PySpark, NumPy, Pandas
- Technologies: Git, GitHub, Bitbucket, Jira, Docker, Redis, AWS, gRPCs (Protobufs), WebSocket, RESTful APIs, Microservices, CI/CD, Snowflake, Supabase, Postman, Bash, Cryptography, CosmosSDK
- Languages: Fluent Proficiency in English, Hindi, Odia

INTERNSHIP EXPERIENCE

Bluesheets Singapore Pte Ltd,

Jun 2024 – Aug 2024

Full-Stack Engineer Intern

- Reduced serverless **AWS Lambda** infrastructural costs by **15%**. Integrated **Bedrock API** to scale backend operations with **LLMs**.
- Automated export rules for financial documents, reducing rule generation time by **40%**, adopted by **70%** of the clients.
- Developed corresponding export rule preview component in **ReactJS**, increasing overall user satisfaction by **25%** based on onboarding feedback.
- Implemented **Python** post-processors to deliver tailored outputs for **15+** clients post OCR model processing.

Switcheo Labs Singapore Pte Ltd,

Jan 2024 – May 2024

Software Engineer Intern

- Optimized trading engine on the perp DEX platform, increasing transaction throughput by **15%** and managing **150+** open positions across **500+** markets concurrently.
- Leveraged **Golang** for efficient algorithm design, refactoring, and rigorous CI/CD testing.
- Developed **20+ CLI** commands for efficient blockchain transactions and queries using **gRPCs** (Protobufs).
- Facilitated **PostgreSQL** migrations for frequently accessed data, caching them in **Redis**, enhancing query efficiency.

Continental Automotive Singapore Pte Ltd,

May 2023 – Aug 2023

ML and Cybersecurity Intern

- Implemented **GANs** and Autoencoders with **CNNs**, boosting image recognition accuracy to **86%** and enhancing performance on noisy datasets for better autonomous vehicle security.
- Applied cryptographic techniques, including encryption and hashing algorithms to secure data in model deployment.

PROJECTS

Concurrent Servers [GitHub](#)

- Built **C** and **Python** based concurrent-server system featuring multithreaded and asynchronous models.
- Used POSIX threads and network sockets for handling multiple clients, optimizing performance through non-blocking I/O and thread pooling.

Blockchain Implementation [GitHub](#)

- Developed **Golang**-based blockchain with **3-node** distributed-system architecture (wallet, miner, central), using **UTXO** model for wallet creation, address validation, and secure transactions.
- Achieved seamless genesis block distribution and node synchronization in $O(\log n)$ using a **Merkle Tree** architecture.

Limit-Order-Book [GitHub](#)

- Designed dynamic Order-Book in C for real-time financial transactions for add, execute, cancel operations in $O(1)$.
- Implemented **binary tree** and **map-based** tracking for buy-sell orders, ensuring swift data retrieval, and incorporated balancing strategies for book updates.

HTTP Server [GitHub](#)

- Developed C++ server to handle connections, requests, and responses with methods for server lifecycle management and communication.

LEADERSHIP

NTU Social Impact Catalyst, *Vice-President* (Executive-Committee)

Aug 2023 – May 2024

IEEE NTU Student Branch, *Welfare Director* (Main-Committee)

Aug 2022 – Jul 2023