

# Wang Jiefan

[nafeij.me](mailto:nafeij.me) | [wng.jiefan@gmail.com](mailto:wng.jiefan@gmail.com) | [linkedin.com/in/wang-jiefan](https://www.linkedin.com/in/wang-jiefan) | [github.com/Nafeij](https://github.com/Nafeij)

## EDUCATION

### National University of Singapore

Singapore

*Bachelor of Computing, Focus in Parallel Computing and Database Systems*

*Aug. 2021 – July 2025 (Est.)*

- Current GPA: 4.26

### NUS High School of Math. and Science

Singapore

*Diploma w/ High Distinction*

*Jan. 2013 – Oct. 2018*

- Honours in Physics and Computer Science, Majors in Chemistry and Mathematics
- Debate and Oratorical Society Executive Council Vice President

## EXPERIENCE

### Backend Platform Developer Intern

Singapore

*Shopee Pte. Ltd.*

*May - Aug. 2024*

- Developed Virtual Private Cloud (VPC) Gateway feature for internal deployment platform, to streamline management of subnet pools for automatic allocation to VPC Groups across accessibility zones.
- Implemented dynamic Differentiated Services Code Point architecture for internal Network Policy Management system, to enable user configuration of traffic priorities and Quality of service based on network classifier cgroups.

### Teaching Assistant

Singapore

*National University of Singapore*

*Aug. 2023 - May. 2024*

- CS2109 Introduction to Machine Learning, CS3211 Parallel and Concurrent Programming.
- Created assignments, administrated marking of submissions, conducted weekly tutorial sessions and provided consultation to students.
- Implemented automatic cloud-based solution for batched compilation of LaTeX homework papers.

### Software Engineer Intern

Singapore

*Pinvest Pte. Ltd.*

*May - July 2023*

- Proposed and integrated parallelization and optimization constructs, such as streaming, pipelining and caching, into LLM service infrastructure. End-to-end latency for API endpoints improved by as much as 35%.
- Triaged and fixed several request-spoofing security vulnerabilities to mobile financial trading platform.

## PROJECTS

### The Conq Programming Language | *Rust, WebAssembly*

*Jan. – April 2024*

- General-purpose programming language for web pages, supporting vector graphics.
- Current implementation uses LLVM-MLIR toolchain and compiles to WASM with WebGL bindings.
- Includes **Conq-er**, a Monaco-based IDE.

### Order-Matching System | *C++*

*Sep. – Nov. 2023*

- Socket-based HFT-inspired multi-threading [order-matching engine](#).
- Utilizes custom extension of `std::priority_queue` that is thread-safe, supports arbitrary removal and iteration.
- Intel Core i7-9700 (8 cores, 8 threads): Processes 2000 buy-sell orders in around 18ms.

### Scrollly | *PyTorch, Typescript*

*Mar. – May. 2023*

- AI-driven single-command karaoke video synthesizer.
- Uses Whisper ASR for transcription, Facebook's Demucs for vocal isolation, and Remotion + AWS Lambda for cloud-based video rendering.

### PySlidingWindow | *Python*

*Aug. – Nov. 2022*

- Custom hybrid lossless file transfer over UDP. 15kbps (19% slowdown) at 40% packet corruption and 40% packet loss.

### Video Game Modding | *Unity, Blender, GIMP, ActionScript, JSON*

*July 2018 – Present*

- I reverse-engineer, modify and bug-fix old video games in my spare time. Conducted static analysis and decompilation of game engines.
- [The Banner Saga](#) (2018 – Present) - 11,000 unique users.
- [Journey](#) (2020 – Jan. 2023) - 12,000 unique users.

## ACHIEVEMENTS

National Infocomm Competition - *Distinction*

*2016*

Canadian Computing Competition (Senior) - *Distinction*

*2018*

SuperComputing 24 IndySCC - *Team Participation (Ongoing)*

*2024*

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, Go, Rust, PostgreSQL, MongoDB, MIPS, Typescript, WebAssembly

**Frameworks, Libraries & Tools:** React, React Native, Node.js, Git, OpenMP, OpenMPI, eBPF, Cilium, etcd, Kubernetes, ROCm, CUDA, JIRA, Jenkins, Firebase, GraphQL, NumPy, PyTorch, pwnTools, Matplotlib, Selenium WebDriver

## MISCELLANEOUS

As a Singapore Citizen, I'm eligible for the **USSFETA H1B1 Visa**.