# Jiafeng (Jayden) Yu

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## Technical Skills

**Languages**: Python, C/C++, Rust, Lisp (Racket-lang), Bash, Lua, JavaScript, HTML/CSS, KDB/SQL, Java, MIPS/ARM Assembly, R,
**Frameworks/Tools**: Arch Linux, Vim, Git, FreeBSD, NumPy, Pandas, PyTorch, TensorFlow, Compilers (LLVM), AWS, Jira, Node.js, Vue.js
**Interested in**: OCaml, Automated Theorem Proving, Quantum Computing, Penetration Testing, Gentoo and BlackArch Linux
**Communication**: English, French, Mandarin Chinese, Spanish

## Experience

**University of Waterloo** — Waterloo, ON
*Undergraduate Research Assistant | C* — *Jan 2023 - Ongoing*

- Researching FreeBSD kernel performance optimization using static and dynamic analysis
- Researching conditional, coalescent instruction prefetching and continuous profiling
- Decompiled binaries to minimize cache misses by automating code refactoring using Ghidra
- Implemented the testing framework and performance tested HHVM, DaCapo, and Renaissance applications
- Read, summarized, and presented various academic and industry systems research papers

**Ledn Inc** — Toronto, ON
*Quantitative Developer Intern | Rust, Python* — *Sept 2022 - Dec 2022*

- Designed and engineered a multi-threaded market data consolidator in Rust to decrease latency by over 50%
- Participated actively in the design and implementation of a high frequency quantitative trading product in Python and Rust, through researching various limit order models, efficient documentation, and code reviews
- Analyzed cryptocurrencies market trends to produce market microstructure reports using KDB and SQL
- Managed an AWS EC2 instance to source modeling data and host a KX Developer environment
- Researched and tested the implementation of a LSTM and Neural Network model for low latency decision making

**Ford Motor Company** — Waterloo, ON
*Software Engineer Intern | Python, JavaScript* — *Jan 2022 - April 2022*

- Implemented the Full Stack Development for a performance metrics website following Agile Development
- Engineered Python scripts to automate the creation and modifications of JSON data processing files

**SS&C Technologies** — Toronto, ON
*Full Stack Developer Intern | Java, JavaScript* — *May 2021 - Sept 2021*

- Implemented modules of a Java based Selenium testing framework from scratch
- Designed and implemented frontend components of a revamped legacy product using Vue.js

## Education

**University of Waterloo** — Waterloo, ON
*Bachelor of Mathematics, Major in Honours Computer Science, Minor in Pure Mathematics* — *Sep 2020 – May 2025E*

- **Relevant Coursework:** Artificial Intelligence, Machine Learning, Operating Systems, Algorithms, Data Structures, Compilers, Theory of Computing, Object Oriented Programming, Computer Architecture and Design, Numerical Computation, Abstract Algebra, Real Analysis, Quantum Mechanics, Special Relativity

## Community

**University of Waterloo Computer Science Club** — Waterloo, ON
*Systems Administrator* — *March 2023 - Ongoing*

- Managed CS Club services and helped maintained uWaterloo's tier 1 Arch Linux mirrors
- Helped allocate server space and host websites for other student clubs

## Projects

**Immune System Invaders** | *JavaScript, HTML, CSS* — March 2020
Created a web based implementation of the Space Invaders game with a COVID-19 twist in standard JavaScript, HTML, CSS with OOP principles and scalability in mind. Link to game