

Denton Liu

Software Developer

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dentonliu.com 🌐

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Technical Skills

- Proficient in Java, C, C++, Solidity, Python, Bash and various assembly languages (x86, 6502, ARM, PIC).
- Experienced with building web applications using Node.js, MySQL, JavaScript, HTML and CSS.
- Well-versed in cryptocurrency blockchain technology with an emphasis on Ethereum development.
- Longtime Arch Linux user with abundant experience using the command-line.
- Extensive knowledge of Git internals.

Experience

Jan – Apr 2017 **Engineering Intern**, *Cask Data*, Palo Alto, California.

- Designed and implemented optimiser to remove unnecessary operations by building and analysing graphs.
- Reduced memory usage of searches by 50% which stopped YARN containers from running out of memory.
- Helped implement a chaos-monkey to systematically terminate Hadoop processes for integration tests.
- Created a plugin to accept streaming MQTT data using Spark.
- Fixed major bugs affecting client companies in the 590k LOC Java codebase of the CDAP big-data platform.
- Assisted with system administration and project releases by creating useful and maintainable shell scripts.

May – Aug 2016 **Blockchain Engineer**, *Ledger Labs*, Toronto, Ontario.

- Performed bleeding-edge R&D on blockchain state channels.
- Built a general-purpose implementation of state channels using Solidity smart-contracts and JS.
- Committed many successful pull requests to the Solidity compiler in C++.
- Contributed to open-source Ethereum projects in JS including browser-solidity, solc-js and testrpc.

Projects

Cryptocurrency
Algorithm
Trading

- Developed a reliable algorithm-trading application using Python 3 with 8.8% average monthly return.
- Implemented a market making algorithm, taking advantage of the volatile cryptocurrency market.
- Emulated and reimplemented Poloniex exchange API endpoints locally to accurately backtest algorithm.
- Secured and administrated Raspberry Pi server running trading application.

LAByrinth

- Created a labyrinth game using an Arduino microcontroller in C.
- Used a LCD matrix display and an accelerometer to physically interact with the player.
- Wrote an abstraction layer over hardware to simplify higher-level development.

Breadboard
Computer

- Wired a computer with the 6502 processor on a breadboard using only integrated circuits.
- Programmed a version of Pong by hand-compiling C code into 6502 assembly.
- Utilised an EEPROM programmer to load the assembled hex image.

Java-Webchat

- Employed RMI to communicate between server and clients.
- Implemented a user database and took precautions to secure user passwords using salted hashes.
- Led and organised a team of developers to complete the project against tight deadlines.

Education

2015 – 2020

Candidate for Bachelors of Software Engineering, *University of Waterloo*, Waterloo, Ontario.

Interests and Hobbies

- Avid unicyclist.
- Devoted Vim user.
- Enthusiastic user of \LaTeX .
- Class representative on EngSoc council.