Jason Priest

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Education

- **Massachusetts Institute of Technology** — Cambridge, MA
  Candidate for B.S. in Computer Science and Engineering; Technical GPA: 4.5 / 5.0 — *Aug. 2015 – Dec. 2020*

Projects

- **Denuo C Compiler**: A work-in-progress C compiler written in Rust *2019*
  - Standard-compliant preprocessor with precise error tracking across file inclusion and macro expansion
  - handwritten LL(2) parser, along with tools to generate look ahead tables for any LL(k) grammar
- **VOS / Denuos**: Two separate atempts at toy operating system kernel written in Rust *2015*
- **LBI**: A Lua virtual machine bytecode interpreter, written in Lua *2012*
- **MODS**: Assembler for the Lua bytecode format *2011*

Experience

- **Touchplan.io** — Boston, MA
  Software Engineer — *Feb 2020 – Present*
  - **Backend**: Maintained and extended a Java backend server for a construction planning SaaS platform
  - **Scalability**: Created benchmarks to replicate production load as well as identified and eliminated bottlenecks preventing further growth
  - **Database**: Optimized problematic queries and maintained business logic for a PostgreSQL Database
  - **Cluster Orchestration**: Improved task scheduling in the server cluster to increase resource utilization
  - **Devops**: Helped automate the maintenance of linux server clusters
  - **Google Cloud Platform**: Worked extensively with Google Firebase/Firestore and Google Cloud Storage
- **MIT Lincoln Lab / MIT CSAIL** — Lexington, MA
  Student Researcher — *Fall 2019*
  - **Secure Operating System**: Worked on team developing a prototype OS for a new RISC-V based tagged CPU architecture aimed at improved security. Worked with C and Rust.
- **Broadway Technology** — New York, NY
  Intern — *Summer 2018*
  - **Financial Instruments**: Developed backend for new financial instrument on a platform connecting financial exchanges to a wide variety of financial institutions
  - **Optimizations**: Profiled, benchmarked, and tested optimizations in a C++ codebase
- **Ab Initio** — Lexington, MA
  Intern — *Summer 2017*
  - **Big Data Processing**: Added new frontend to compiler for data processing workflows and developed new optimizations within the existing compiler framework. Worked with C++.
- **MIT Lincoln Lab** — Cambridge, MA
  Student Researcher — *Fall 2016*
  - **Reverse Engineering**: Performed research in reverse engineering and simulating PowerPC Linux wireless access points
- **Touchplan.io** — Boston, MA
  Intern — *Summer 2016*
  - **Cluster Orchestration**: Implemented high-availability, online upgrading, and improved cooperative features for a Java and PostgreSQL backend server with Apache Mesos and ZooKeeper
  - **Continuous Delivery**: Introduced continuous delivery systems using Atlassian Pipelines which build and deploy new versions of the backend code to a test environment

Programming Skills

- **Languages**: C/C++, Python, Java, PostgreSQL, Rust, Lua, x86 Assembly
- **Tools**: git, perforce, svn, make/cmake, gcc/clang, ld, gdb, vim/emacs, valgrind, perf
- **Operating Systems**: Windows, Mac OS X, Ubuntu