

BERNARD KIM

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EDUCATION

UNIVERSITY OF WASHINGTON

Seattle, Washington

B.S. in Computer Science

June 2018

- GPA: 3.44/4.0
- Coursework: [Compiler Construction](#) [Computer Networks](#) [Computer Security](#) [Embedded Systems](#) [Data Management](#) [Distributed Systems](#) [Machine Learning](#) [Operating Systems](#)

PROJECTS

PTrade

Jul 2018 - Present

- Developed a REST API in [Golang](#) to handle user transactions stored in a [MySQL](#) database.
- Created scheduled tasks to pull the latest stock market prices and log user data for analytics.
- Front-end built using [React.js](#) and [Material-UI](#) for a responsive, minimalist UI.
- Link: <https://p-trade.herokuapp.com>.

KV Store

Mar 2018 - Jun 2018

- Built a highly available, scalable, fault tolerant key-value store using [Java](#).
- Implemented at-most-once RPC semantics to prevent duplication.
- Utilized the multi-Paxos algorithm for state machine replication.
- Partitioned the key set to improve system throughput.

MiniJava Compiler

Mar 2018 - Jun 2018

- Worked in a team of two to build a [MiniJava](#) compiler using [Java](#).
- Implemented the scanning and parsing phase utilizing the JFlex/CUP tools.
- Implemented semantic checking and code generation using ASTs.

xk Operating System

Sep 2017 - Dec 2017

- Built a UNIX-like operating system in [C](#) from the base code of [xv6](#).
- Implemented a handful of system calls.
- Enabled the operating system to run multiple processes.
- Added a relatively full-featured virtual memory system (LRU swapping, mmap, copy-on-write).

RESEARCH

xk Microkernel

Jan 2018 - Mar 2018

- Worked with a small team tasked with migrating the virtual memory system from the kernel into user level space.
- Added support for system call redirection from the kernel to a libOS.
- Physical memory was statically partitioned and allocated for a predefined number of libOS instances.

SKILLS

Languages & Technologies

- [Java](#) [C](#) [Python](#) [Golang](#) [JavaScript](#) [React.js](#) [Node.js](#) [SQL](#) [Heroku](#) [Git](#) [Unix](#)