Ori Bernstein

REDACTED
New York NY
10003

Phone: REDACTED
Email: ori@eigenstate.org
Github: `https://github.com/oridb`

Education

Engineering Physics (Computer Science Minor), McMaster University, 2011
Harrison Metal: General Management, 2019

Skills

C, C++, Python, Kotlin, Java, Scala, Spark, x86/arm Assembly, Python, Perl, OCaml, Shell script, SQL, LaTeX, Linux, OpenBSD, Plan 9, AWS, Google Cloud, Agile.

Work Experience

Chief Architect — *Jul 2020 – Present*
Pingthings.ai — *Remote*
Chief architect at pingthings.ai. In charge of shepherding our core technology. Working across entire backend. Leading design and implementation of our database, ingestion pipelines, and supporting the data science, frontend, and devops teams.

Took an already performant database engine, and tripled performance.

Software Engineer — *Dec 2016 – Jul 2019*
Level.ai — *Palo Alto, CA*
Founding engineer at level.ai. Stayed until the company shut down. Level.ai made a smart microwave oven that could steer heat, cooking two different foods to two different temperatures at the same time. The product involved custom hardware, machine learning, backend data processing in the cloud.

Worked across entire tech stack. Led Spark data processing team. Architected and implemented firmware, drivers, sensor interface layers, neural network acceleration. Architected update infrastructure, designed and built key components. Architected and implemented telemetry and monitoring infrastructure. Worked on design and implementation of core algorithms.

Software Engineer — *Dec 2014 – Nov 2016*
Facebook — *Menlo Park, CA*
Worked on the Facebook FBOSS project implementing control plane software, routing protocols, and miscellaneous supporting infrastructure. Spent most of the time maintaining the BGP daemon, allowing implementing features allowing Facebook to reliably handle failover, and significantly improving reliability of the daemon.

Software Engineer — *Jul 2011 – Nov 2014*
Google — *New York City*
Worked on the Doubleclick ad serving team. Maintained the malware detection system, improving reliability, uptime, and detection significantly. Implemented customer facing features within the XFP ad server, including improved macro handling and email ad links.

Compiler Optimization Intern — *May 2010 – Aug 2010*
IBM — *Toronto Software Lab*
Worked within the Testarossa JIT team. Added the ability to do loop invariant code motion within the optimizer.

Plan 9 Systems Development Intern — *June 2009 – Aug 2009*
Alcatel-Lucent — *Bell Labs*
Worked in the Bell Labs Unix room on various aspects of the Plan 9 operating system, with a focus video drivers development. Integrated a number of improvements to the VESA driver, and started on a driver for the Intel i965 chipset.

Embedded Software Developer Intern *May 2008 – Aug 2008*
Research in Motion *RIM Mississauga*
Lead developer for RIM Fermion2 OS. Brought up Blackberry OS on new hardware, and worked on ports of the drivers and general bug hunting. Also improved the fingerprint scanner drivers, and provided builds of software for manufacturing.

Talks

Selected Talks

Embedded Software Developer Intern *Oct 2019*
Plan 9: Not Dead, Just Resting `https://youtu.be/6m3GuoaxRNM`
Talked about the current state of Plan 9, and what can be learned from it. Discussed recent changes and the kinds of improvements that are coming down the pipe. We had Arm64 support before Ubuntu!

Embedded Software Developer Intern *Jan 2019*
!!Con West: That's Hot! `https://youtu.be/nkLz1pjycFc`
Talked about cooking algorithms for smart microwave ovens, describing the general approach to cooking we take. Short talk, only went into patent-protected generalities.

Embedded Software Developer Intern *May 2019*
BSDCan: QCow2 in VMD `https://youtu.be/5TZZvylyIas`
Talked about the design and implementation of the QCOW2 disk format in the OpenBSD VMD virtual machine daemon. Discussed both the use and implementation.

Embedded Software Developer Intern *September 2016*
SLCon: The Myrddin Language `https://bit.ly/2OAaYPb`
Discussed the design and implementation of the Myrddin programming language, libraries, and supporting infrastructure.

Passion Projects

Git9 `https://github.com/oridb/git9`
An implementation and reimagining of git for the Plan 9 operating system. Implemented in approximately 7000 lines of code. Complete enough to be used as a daily driver by multiple people, and on track to replace mercurial as the VCS used by 9front.

Myrddin Programming Language `https://myrlang.org`
Project to create a low-level programming language, suitable for writing software to run on bare metal, or doing systems programming. Has multiple contributors, and more than 100,000 lines of code written in it. Generated binaries do not depend on libc.

OpenBSD `https://openbsd.org`
Committer on the OpenBSD project. Mainly working on the VMD virtual machine daemon. Also contributed networking support to Game of Trees, the git reimplementation associated with OpenBSD.