Ori Bernstein

New York NY
10003

Phone: 917-676-7711
Email: ori@eigenstate.org
Github: `https://github.com/oridb`

Education

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

Work Experience

Chief Architect   *Jul 2020 – Apr 2023*
Pingthings.ai   *Remote*

Chief architect at pingthings.ai. In charge of setting technical direction and strategy company-wide, focusing on designing and improving our custom in-house time series database derived from UC Berkeley research. Additionally, worked closely with and supported the data science, frontend, and devops teams.

Spearheaded a culture of support, mentorship, respect, and learning, which lead to junior team members taking on complex and deeply challenging work, excelling, and punching well above their weight.

Recruited and built out the engineering team.

Founding Engineer   *Dec 2016 – Jul 2019*
Level.ai   *Palo Alto, CA*

Founding engineer at level.ai. 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 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 and built OTA updates. Architected and built telemetry and monitoring infrastructure. Collaborated on core cooking algorithms. Maintained custom versions of Android.

Senior Software Engineer   *Dec 2014 – Nov 2016*
Facebook   *Menlo Park, CA*

Worked on the Facebook FBOSS project implementing control plane software, routing protocols, and supporting infrastructure, and drivers. My largest focus was on the BGP daemon, implementing features to support changes to Facebook's data center architecture, 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.

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.

Selected Talks

Oct 2019

Plan 9: Not Dead, Just Resting   `https://youtu.be/6m3GuoaxRNM`
Spoke 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!

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

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

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

Additional Projects

ISO WG14 (C standards committee)   `https://www.open-std.org/jtc1/sc22/wg14/`
C standards committee member, representing Canada at the ISO meetings.

Go Language Contributor   `https://golang.org`
Fixes compiler and runtime bugs.

GEFS   `https://shithub.us/ori/gefs/HEAD/f.html`
Implementation of a new file system for Plan 9, implemented with state of the art algorithms, inspired by
current systems like ZFS, BTRFS, and WAFL, but with many simplifications.

Shithub   `https://shithub.us`
A git hosting service that's running on git9, built from the ground up.

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`
Created a low-level programming language, suitable systems programming. Has multiple contributors, with
more than 100,000 lines of code written in it.

OpenBSD   `https://openbsd.org`
Committer on the OpenBSD project. Mainly working on the VMD virtual machine daemon.