

Matt Iselin

e: matthew@theiselins.net / w: mattiselin.com

Experience

Lead Site Reliability Engineer

Replit

Engineering Manager (Since November 2022)

February 2021 to Present

San Francisco, CA

Engineering Manager (“Engineering Ops”: SRE, Anti-Abuse, Security) (November 2022 – Present)

SRE Hired 4 engineers, enabling partner teams to confidently achieve and then exceed their reliability goals for services with 99.5%-99.99% availability targets.

Anti-Abuse/Security Hired 3 engineers, leading to a major reduction in entire classes of abuse such as multi-account signups and phishing and substantial progress towards compliance efforts including SOC 2.

Lead Site Reliability Engineer (February 2021 – Present)

Technical Leadership Created the Site Reliability function as the first Site Reliability Engineer, introducing Service Level Objectives, improving incident management practices, building and improving continuous integration and deployment systems, and integrating with other engineering teams to improve service reliability.

Reliability Engineering Migrated the web monolith from Heroku to Google Cloud, including Postgres and Redis databases, with less than 10 minutes of downtime.

Software Engineering Implemented software including the MVP implementation of Replit’s “SSH” product feature, and “Netwatch”, a software package that uses Linux BPF to inspect network packets to identify abusive network traffic.

Cloud Cost Management Built the foundations for Replit’s Cloud FinOps practice, reducing typical time to discovery of cost regressions from a month down to 2-3 days, and implemented optimizations to achieve 25%+ cost reductions.

Software Optimization Optimized Go and NodeJS applications achieving up to 2x latency improvements in critical paths.

Linux and Windows Systems Administrator (Until May 2015)

Google

Site Reliability Engineer (Since May 2015)

March 2014 to Present

Sydney, Australia & Sunnyvale, CA

Gmail SRE (July 2018 – February 2021)

Operations Participating in an oncall rotation supporting the full-stack Gmail product including storage, mail delivery infrastructure (SMTP), and user-facing backend/frontend systems (mail.google.com, Mobile, IMAP, POP, etc).

Software Engineering Ran a complex migration across Gmail’s codebase (including code over 12 years old) from Python 2 to Python 3, as part of a company-wide mandate.

Corporate Engineering SRE (March 2014 – July 2018)

Operations Participating in an oncall rotation supporting a fleet of 1,800 Windows and RedHat/Oracle Enterprise Linux 5, 6, and 7 servers.

Software Engineering Developed a critical system used across the organisation to maintain configuration data. Ported a complex, proprietary, C++ software system to run on non-proprietary environments such as RHEL and macOS.

Mentoring and Technical Leadership Provided mentoring for new engineers and acted as a primary contact point for advice and consulting for several key internal technologies in the Corporate Engineering department.

Python Developer

November 2012 to March 2014

Netbox Blue

Brisbane, Australia

Software Engineering Ported a Windows C++ software application, used to intercept and redirect low-level network traffic, to Mac OS X (10.6+). This involved implementing a Windows compatibility layer and working with high thread counts in an extremely concurrent and latency-sensitive application.

Product Development Implementation of product features from the conception of an idea to a working unit tested and sellable feature, such as the groundwork for a next-generation firewall product in Python and C++.

Projects

The Pedigree Operating System (C, C++, Assembly), <https://github.com/miselin/pedigree>, including:

- A testsuite with micro-benchmarks to aid in optimization of kernel features
- Development of kernel utilities including STL-like classes where STL is unavailable
- A full TCP/IP stack including IPv6 capability

An unpublished 3D graphics engine (C++), video demo at https://youtu.be/vs_6_t7iwHg

Coding & infrastructure for my smart home (Prometheus, Grafana, InfluxDB, Python),

<https://mattiselin.com/2020/12/16/a-smarter-home/>

A homebrew x86 computer (Assembly, C, PCB design), <https://mattiselin.com/2024/05/25/building-my-own-computer/>

Education

University of Southern Queensland (Queensland, Australia)

Bachelor of Information Technology (major Applied Computer Science), November 2012