Jonas Termansen

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Google: Software Engineer (2016-2024)

- **Software Engineer at Google Aarhus on the Engineering Productivity team** for the Dart programming language, powering the Flutter cross-platform mobile framework. Tasked with:

- **Increasing developer velocity** by owning the Continuous Integration in a million-dollar Google Cloud project running millions of tests on every change, rejecting bad commits and making technical debt data useful, shaping the supported developer journeys with regularly reviewed documentation.

- **Benchmarking Dart and Android Runtime** by building a performance lab that continously tests on real devices and automatically alerts developers whenever hundreds of thousands of benchmarks change with statistical significance. This data has made billions of phones several percent faster.

- **Protecting Google and its customers** by enforcing state-of-the-art Supply Chain Security (SLSA) for Dart and making unilateral insider attacks impossible: Mandatory code review that cannot be bypassed, replacing all ambient administrator access with audited multi-party approval, building a secure release infrastructure no humans have access to using Terraform, with cryptographic proofs the official artifacts were built on trusted ephemeral cloud instances.

- **Automatically releasing Dart** 2-3 times a week with full auditable security and cryptographic artifacts provenance using my trusted release pipeline.

Bachelor of Computer Science

- Completed Bachelor's Degree in Computer Science in 2016 at the University of Aarhus.

- Elective courses in functional programming, static analysis, language-based security, mathematics, and others.

- Worked as Teacher's Assistant in the Programming Languages and the Operating Systems courses.

Sortix Operating System

- Developed Sortix, a self-hosting and installable Unix-like operating system written entirely from scratch by me since 2011 which today has over 276k lines of source code.

- Implemented a kernel, hardware drivers, TCP/IP network stack, filesystems, graphical user interface, a standard library (libc) and the base system using POSIX and hardware specifications. The kernel is written in C++ and user-space is in C.

- Sortix.org runs on self-hosting Sortix servers in a data center in Germany, powered by the nginx & libressl ports. Sortix releases are built every night on last night's Sortix, a 10-hour 3-million process build making tomorrow's release. The irc.sortix.org chat network runs on Sortix and has an international community of enthusiasts.

- Ported over 78 pieces of third-party open-source software including gcc, python, git, make, ssh, nginx, qemu, quake, and much more and contributed back upstream.

Skills

- **Programming languages:** C (expert), C++ (experienced), Dart (expert), Python (experienced), Scheme (experienced), Java (basics), Coq (basics), PHP (basics).

- **Tools:** Linux, BSD, git, shell scripting, make, GitHub, Flutter, virtual machines, google cloud, ffmpeg, and many, many more. I easily learn what's needed.

- Focus on simplicity, correctness, and security.

Personal

I'm Jonas and I'm a Danish passionate & experienced software engineer. I've grown up in my hometown Aarhus where I studied Computer Science and went to work in the local Google office for eight years. I'm fluent in Danish and English, having spoken it every day working for an American corporation.

I enjoy music and concerts a lot in my spare time. I probably know most of the music community in the country at this point. It's a lot of fun and friendships. I like to show people just how much cool upcoming music there is and how it makes us enjoy life together.

My technical skills are deep and I enjoy constantly changing the level I'm working at, whether high-level goals for the project, low-level implementation details, or everything in-between. My ability to understand the full technology stack makes it possible to achieve the best quality at all the levels.

I've written my own entire operating system from scratch, which now is becoming a powerful server platform. The best side effect is that I truly understand how computers work on both the hardware and software side, at all the different levels, as well as network communications and protocols. I constantly found myself using my deep operating system experiences in my professional work, even receiving multiple peer bonuses asking 'How the — did you figure this out?'

I'm currently looking for new challenges to further my career and I'm planning to move to Copenhagen if I find a suitable opportunity.

Working Style

I've become really good at teamwork working for a multinational corporation with a complex organizational layout across many timezones. My team was tasked with making all of our other developers more productive, and I delighted whenever we would roll out massive workflow improvements, like reducing a 20 minute build to 1 minute using cloud parallelism and caching. I take pride in being able to disagree openly within my team, discussing the technical aspects, trusting we can resolve any conflicts to make a decision, and then owning the solution.

In my role, I spend time to brainstorm with my team and come up with ambitious plan spanning a timescale of a year or more, and then getting organizational buy-in through design documents and meetings, and then executing the plans in collaboration with our partner teams.