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These days, I primarily farm vegetables. Prior to that, I worked for ten years as a systems programmer with a focus on security engineering and cryptographic trust. I am comfortable working in teams both local and geographically distributed. I write well, both for documentation and in engineering standards bodies.

Employment

Waltham Fields Community Farm (2023 + 2024 full seasons)

- Field Crew (full-time)
 - * Grew vegetables organically from seed in fields and greenhouse
 - * Physical work included harvesting, weeding, spraying, seeding, fertilizing, and irrigation
 - * Regularly used tractors for mechanical cultivation and bed preparation
 - * Comfortable performing tasks alone and in a team
 - * Repaired and maintained farm equipment

Red Hat, Inc. (Intern: Summer 2013, Senior Software Engineer: 2014 - 2023)

- Bootloader Enablement Engineer (2021 - departure)
 - * Upstream developer of grub2, shim, efibootmgr/efivar, and related technology
 - * Work focused on Secure Boot development on behalf of RHEL + Fedora
 - * Linux kernel contributor (Secure Boot bugfixes)
 - * Member of shim review board
 - * Led team's engagement with hardware vendors, including IBM's POWER and s390 teams
- Kerberos Development Lead (until 2021)
 - * Upstream developer of MIT Kerberos (krb5) and related technology
 - * Created the first FIPS 140-2 compliant Kerberos implementation
 - * Interoperability work with Active Directory as part of FreeIPA team
 - * OpenSSL contributor (KDFs, krb5 integration, and test suite)
 - * Co-author of python-gssapi (Python bindings to GSSAPI and Kerberos)
 - * Wrote HTTPS transport for krb5, reverse engineered from Microsoft's KKDCP protocol
 - * Responsible for deprecation / removal of DES, 3DES, and RC4 in krb5
- Package maintainer in RHEL, Fedora, CentOS, EPEL, and Debian
- Formal mentor of several interns and junior employees

Carnegie Mellon University (Fall 2013)

- Teaching assistant: Compiler Design (15-410)
 - * Co-author of the (obfuscating) reference compiler

Education

Carnegie Mellon University (2011 - 2014)

- B.S. in Computer Science, minor in Ethics/Philosophy
- Featured courses: Operating Systems (15-411), Compiler Design (15-410, later TA)
 - * Co-wrote UNIX-like kernel with a bootloader and SMP support

Standards bodies

- Member and contributor to UEFI Specification and Security Working Groups (2022 - 2023)
- Chair, IETF kitten (Common Authentication Technologies, N.G.) working group (2018 - 2022)
- Co-author of RFC 9588: SPAKE Pre-Authentication
- Author of Standards Track Document: Deprecate 1024-bit Diffie-Hellman Moduli in Kerberos PKINIT
- Co-author of Standards Track document: Channel Binding Signaling for GSSAPI
- Contributor to US NIST 800-63-3 (“Digital Identity Guidelines”)

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Talks and conferences

- Devconf.cz (2021): Proposal reviewing committee, Security / Identity Management track
- Devconf.us (2020): Proposal reviewing committee, Systems Engineering and Hardware track
- MIT SIPB Cluedump (2019): *Kerberos 30 Years Later (A Modern Cryptographic Overview)*
- Devconf.cz (2018): *Unleashing the Underworld: Kerberos for Developers*
- MIT SIPB Cluedump (2017): *Kerberos: An Introduction from the Underworld Up*
- Flock to Fedora (2015): *Conquering the World with Kerberos*

Tooling

- Programming languages in regular use (10+ years): C, Python, shell, x86/amd64 assembly
- Other programming languages: Haskell, Standard ML, Rust, Lisp (various)
- Development: Linux, git, gcc + clang, gdb, valgrind, wireshark, autotools / make, meson
- Spoken languages: English (native/professional), Norwegian Bokmål (learning), Spanish (learning)

Other

- CPR/AED/First Aid certified by the American Red Cross
- Comfortable soldering electronics and making Arduino projects
- Can weld (stick, MIG, flux core, oxyacetylene) and braze
- Hobbyist blacksmith
- Have hiked 24 different 4000-foot peaks in the White Mountains
- Bike to work in all weather (when safe)
- Have kept a sourdough culture regularly producing bread for five years so far
- Enjoy fermenting and cooking food
- Amateur musician and music enthusiast with interest in audio recording