

# Shon Feder

[shon.feder@gmail.com](mailto:shon.feder@gmail.com)

[github.com/shonfeder](https://github.com/shonfeder) | [linkedin.com/in/shonfeder](https://linkedin.com/in/shonfeder) | [shonfeder.net](https://shonfeder.net)

## EXPERIENCE

### Software Engineer

*Informal Systems*, Toronto, Ontario

February 2020 – Present

- Designed and implemented [kontext](#), a tool for specification and requirement tracing
- Contributed to design, development, and maintenance of [Apalache](#), the symbolic model checker for TLA+
- Contributed to design and development of [themis-contract](#), a CLI tool for parametric, version controlled contracts

### Software Engineer

*CareDox*, New York, NY

March 2019 – August 2019

- Collaborated on redesign of electronic health records platform using CQRS/ES architecture based on the Commanded framework; I advocated for and secured careful application of domain-driven design (DDD) principles
- Designed, implemented extensions to REST & GraphQL APIs for Elixir microservices running on MySQL & PostgreSQL

### Software Engineer, Tools and Infrastructure

*Digital Asset*, New York, NY

November 2018 – March 2019

- Migrated snowflake Jenkins instance to infrastructure as code (IaC), using Terraform, NixOS, and JcasC
- Implemented purely functional deployment and delivery in a globally distributed, polyglot development environment using NixOS, Hydra, Docker, and Terraform on GCP
- Set up CI/CD for the Canton project, leveraging Scala Build Tool, Docker, and CircleCI

### DevOps Engineer → Robotics Automation Software Engineer

*KeyMe*, New York, NY

June 2016 – November 2018

- Designed and implemented interfaces for LED and GPIO firmware in C for an Atmega AVR MCU
- Designed and implemented robotics calibration framework in Python to standardize reporting and improve reliability
- Introduced static type analysis into codebase and CI pipeline via gradual typing of existing Python code
- Prototyped ports of core processes to Rust, OCaml, and Haskell, helping secure Haskell's introduction into production
- Reduced ticket load by 50% through extensible Python framework I designed and developed to automate issue responses
- Designed and implemented CLI tools enabling safer, noninvasive maintenance of nodes & doubling operator efficiency
- Improved the speed (~20%), reliability, & flexibility of deployment to thousands of nodes via git automations
- Worked closely with Dev, Ops, Customer Service, and Technical Support to improve efficiency, advance automation, extend tooling, and foster a culture of collaboration and communication

## SKILLS

**Programming Languages:** OCaml, Prolog, Python, Rust, Haskell, C, Bash, SQL, Elixir, JavaScript, Scheme

**Software & Tooling:** Git, SaltStack, Rundeck, Postgres | GCP, AWS | Emacs, Vim | Docker, Terraform, Nix | Jenkins, CircleCI

**Methodologies:** functional, relational, object oriented, actor model | type-driven development

## EDUCATION

**Recurse Center**, Brooklyn, NY

September 2019 – December 2020

Studied typed lambda-calculi in my [Themis project](#), studied the experimental language 1ML

**University of Colorado Boulder**, Boulder, CO

2010 – 2012

Towards an MA in German Language and Literature

Awarded the Max Kade Fellowship for “exceptional applicants” (2010)

**University of Colorado Boulder**, Boulder, CO

2002 – 2007

BA in Philosophy, GPA 3.60

## PROJECTS

[Alg\\_structs](#): An OCaml library for algebraic structures with functionality akin to Haskell's type classes

[tokenize](#): A simple tokenization library for (SWI-)Prolog

**Open Source Contributions:** [dune](#) (member of development team), [atd](#), [vyconf](#), [aws\\_ssm\\_provider](#)

**Coding Made Easy at IS 62 K (Ditmas)**, Team Leader for *New York Cares* volunteer project

March – May 2016