Shon Feder

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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