Steven Danna

Software Engineer

My goal is to create reliable systems software while contributing to a development team dedicated to continuous improvement and high-quality engineering.

Experience

2014–2020 **Software Engineer**, *Chef*, Remote, United Kingdom.

I designed and developed new software products in Erlang, Go, and Ruby and was often the go-to person for difficult-to-debug problems. I collaborated with and mentored other software developers to foster an environment conducive to high-quality software development.

Select Projects

- **Chef Server**: Chef Server provides a REST API used to drive infrastructure automation tasks. Written primarily in Erlang, it takes advantage of PostgreSQL, RabbitMQ, Redis, and Elasticsearch. My contributions include adding support for Elasticsearch as a search index, driving a 42% reduction in the product's package size, improving the reliability of the build environment, and developing a privilege separation mechanism to reduce the proliferation of sensitive data in configuration files.

- **Chef Automate 2**: I built services in Go for Chef Automate 2, a microservice-based system run on-premises by our customers. These services handled the installation, automatic upgrade, backup and restore, and configuration of roughly 30 other services. This work was successful enough that it became the main installation method for all of our on-premises software.

  To allow developers to express stateful, distributed operations inside Chef Automate, we built a workflow system similar to Amazon's Simple Workflow Service on top of PostgreSQL. The workflow system automatically handled job distribution and failure recovery.

- **Chef Backend**: Chef Backend is an Erlang and Ruby application that makes it easy to install and run a high-availability PostgreSQL cluster, providing quick failover in response to single-machine failures. I was the lead developer on this project throughout its design, development, and release.

- **Inspec v1**: Inspec is a Ruby application that provides a domain-specific language for describing and testing security compliance policies. I developed a dependency management system for Inspec 1.0. This system allowed users to specify dependencies for their Inspec profiles in a manner similar to Ruby's Bundler but without requiring a single version of each dependency.

- **Habitat**: I improved the reliability of Habitat, a process supervisor and packaging system written in Rust, by investigating and solving multiple bugs related to non-atomic file operations, incorrect signal handling, and threading deadlocks.

2013–2014 **Support Engineering Manager**, *Chef*, Seattle, WA.

- Hired and trained multiple support engineers to support Chef customers.
- Worked with Engineering to prioritize bug fixes and feature requests from customers.
- Coached support engineers to improve their debugging and written communication skills.

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2011–2013 **Support Engineer**, *Chef*, Seattle, WA.

- Answered support requests from both Chef customers and users of Chef's open source software and provided 24/7 high-severity support for Chef customers. This often required quickly solving technical problems on live conference calls with the customer experiencing an outage.
- Investigated the root cause of bugs and contributed fixes to Chef products to ensure quick resolution of customer issues.
- Built an Openstack-based compute environment used to build and test our products. This environment allowed us to build and test Chef and Chef Server across dozens of different operating systems.

2009–2011 **Research Assistant**, *Evans School of Public Affairs*, Seattle, WA.

Developed web tools in PHP and Javascript to provide public access to data created by the research team and assisted with data analysis and visualization for a government-funded research project. Further, I managed a 9 person team responsible for interviewing 500 public housing residents and created databases for respondent tracking and data analysis.

2007–2009 **Residential Computer Consultant**, *Computer Services and Systems Development, University of Pittsburgh*.

Contributed to a software development project in C# to manage the configuration of student computers university-wide, solved computer software problems for students, and wrote technical manuals for Ubuntu and Red Hat Linux distributions.

Education

2009–2011 **Master of Public Administration**, *University of Washington*, Seattle, WA.

Thesis: "Preliminary Investigation of Applying Implied Liquidity Measures to the Municipal Bond Market"

2005–2009 **B.S. Mathematics-Economics**, *University of Pittsburgh*, Pittsburgh, PA.

Summa Cum Laude

2005–2009 **B.A. Philosophy**, *University of Pittsburgh*, Pittsburg, PA.

Summa Cum Laude

Skills & Interests

Languages **Proficient**: Go, Erlang, Ruby

Currently Learning: Rust **Reading Proficiency:** C and others

Software Linux, Git, Chef, PostgreSQL, C/C++ build toolchain, and much more (ask!)

Interests Systems Programming, Distributed Systems, Development Tooling, Infrastructure Automation

Immigration Status

US Citizen with Indefinite Leave to Remain in the United Kingdom