Griffin Smith

Software Engineer

Skills

Clojure Extensive experience architecting, deploying, and building complex web applications in Clojure and Clojurescript, with a focus on Re-Frame and Reagent.

Haskell Passionate love for pure functional programming as a hobbyist pursuit, but also practical experience building production systems in Haskell at scale, and using Haskell's advanced type system extensions where appropriate to deliver increased ergonomics and safety.

Nix Experience with adopting and teaching nix at scale in a production stack both for local development dependencies and for configuring and building production software. Core contributer to a fork of the nix implementation itself (tvix) aimed at providing increased safety, performance, and flexibility.

Scala Understanding of Scala from the perspective of a functional programmer rather than a Java programmer. Experience building production big-data processing systems using Akka, and deep programming with Scala's type system using Shapeless.

Unix/Linux Experience with administrating highly available distributed systems. Passion for the Unix philosophy of discrete, composable units of functionality.

Ruby Experience building both full-stack applications with Ruby on Rails in addition to smaller microservices and custom frameworks. Deep understanding of the internals of the Ruby interpreter and object system.

Javascript Experience developing real-time responsive single-page web applications using React, in addition to significant contributions to the React open-source community.

SQL Deep understanding of relational databases, including experience designing the database schema in Postgres for an application with over a decade of usage, hundreds of gigabytes of data, complex, multi-tiered hierarchical data structures, as well as experience writing and optimizing large, complex queries against that database.

Additional Tools

○ Vim ○ Kubernetes ○ Git ○ Puppet ○ AWS ○ Reagent ○ Datomic ○ Elasticsearch ○ Redis ○ DynamoDB ○ Docker ○ JIRA ○ Java ○ QuickCheck (and similar tools) ○ Python ○ Elixir

Novice Level: ○ Rust ○ C++ ○ Erlang ○ Prolog ○ Idris ○ Agda ○ Tensorflow

Experience

Employment

2019-present **Engineering Manager**, *Urbint*, New York, NY.

- Lead of the platform team with two direct reports - a senior SRE and a senior software engineer.
- Performed user research on developers, project managers, product managers, and other internal stakeholders to build the roadmap for the platform team.
- Built and maintained a system to deploy one-off full stack application instances from pull requests to enable easier testing.
- Led a large, multi-project migration between CI systems that resulted in a decrease of average build times from 2 hours to less than 10 minutes.
- Maintained and extended Nix-based build and development infrastructure for both software engineers and machine learning engineers.

2018–2019 **Senior Software Engineer**, *Urbint*, New York, NY.

- Built, trained, and maintained a large, deep-learning-based image-detection model for semi-automated (human-in-the-loop) video classification.
- Designed, built, and maintained a novel in-house tool for collection of training data.
- Maintained and guaranteed reliability of a large data pipeline for video processing and classification.

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References available upon request

2017–2018 **Senior Software Engineer**, *Urbint*, New York, NY.

- Integral in the architecture of a novel, serializable ACID transactional graph database built on RocksDB, first in Elixir then in Haskell.
- Helped ship customer deliverables involving multi-day data processing jobs for disparate data sources.
- Instructed other developers in the use of and theory behind Haskell
- Brought computational graph theory to bear on the problem of unifying disparate, highly heterogeneous data sources across the world of open data.

2016–2017 **Senior Software Engineer**, *SecurityScorecard, Inc.*, New York, NY.

Lead frontend developer for a rapidly-moving and growing security software startup.

- Took part in collaborative product design meetings to make UX tradeoffs with product designers and managers.
- Drove application architecture for a large, complex, data-driven frontend application.
- Championed increased use of production monitoring and alerting.
- Worked with business stakeholders to set long- and short-term priorities for application development.
- Mentored junior team members.

2015–2016 **Lead Developer**, *Nomi, Inc.*, New York, NY.

Lead web services developer transitioning to a full-stack role implementing shared software components and architecting a large, complex microservices application ingesting hundreds of gigabytes of IoT data per week.

- Lead application architecture of the majority of the backend services to encourage consistent REST API design and code sharing.
- Championed the use of Haskell for rapid, safe development of the API Gateway service.
- Took ownership of operations and server maintenance of a >100-instance AWS account using Puppet.

2014–2015 **Lead Developer**, *LandlordsNY, LLC*, New York, NY.

Sole engineer for a small startup connecting landlords and property managers and facilitating the online sharing of information in a historically technology-averse industry.

- Drove product design, visual design, and UX architecture for a major revamping of the core product.
- Interfaced with customers to set priorities for new feature development.
- Conducted hiring and recruiting to build out an engineering team.

2012–2014 **Associate Developer**, *Visionlink Inc.*, Boulder, CO.

Integral member of an agile development team building the nation's most-used Information and Referral platform for organizations such as United Way Worldwide and the American Red Cross.

- Refactored and revamped legacy code to increase performance and long-term maintainablity.
- Worked on several triage-teams to rapidly fix production bugs with strict deadlines.
- Built a complex, yet highly-performant tool for searching human services by category.
- Acted as a core designer and developer of a major product revamp.
  - Drove a complete rethinking of the data model in the product, leading to greater unification, simplicity, and consistency;
  - Championed the adoption of a test-driven-development model;
  - Drove product documentation and code standardization.

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Project Highlights

- **Github Bug Bounty** – *https://bounty.github.com/researchers/glittershark.html*
  Discovered and responsibly disclosed a persistent XSS on Github's main website
- **Tvix** – *https://cs.tvl.fyi/depot/-/blob/third_party/nix/README.md*
  Fork of the Nix build tool delivering increased reliability, code quality, and pluggability
- **Panettone** – *https://cs.tvl.fyi/depot/-/tree/web/panettone*
  Aggressively simple bug-tracker developed in Common Lisp for the community involved in the development of Tvix. Hosted at https://b.tvl.fyi
- **Org-Clubhouse** – *https://github.com/glittershark/org-clubhouse*
  Emacs library for integration between org-mode and the Clubhouse issue tracker
- **core-async-storage** – *https://github.com/glittershark/core-async-storage*
  Simple Clojurescript wrapper around React Native's AsyncStorage using core.async

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