
Profile

Experienced Elixir and Infrastructure Engineer with more than 15 years experience perform both software development and operations. Current focus has been doing Elixir software engineering in startups. I seek to continue working in the Elixir space for the foreseeable future.

Professional Experience

2024 **Senior Elixir Engineer (Contract)**, *Epic Creative*, Chicago (Remote), USA

- Architected platform that stores, runs, and monitors arbitrary customer code execution with temporary instances using the fly.io platform.
- Built nix-based runtime environments for executing Elixir FLAME-managed code.
- Developed API for platform management by customers.
- Developed instrumentation to supervise every aspect of the platform.
- Built Github Action CI for testing and building containerized code.
- Responsible for ensuring code quality is enforced with GHA infrastructure.

2022 - 2023 **Senior Elixir Software Engineer**, *Datajoin*, Provo, Utah (Remote), USA

- Architected the Elixir rewrite of the Datajoin microintegrations platform.
- Mentored junior engineers on Elixir and AWS best practices.
- Developed the reference product integration work for 3rd party platforms like Adobe Analytics, Salesforce, Marketo. This work was featured in the 2023 Adobe summit (See footnote #4).
- Developed the S3 data processing pipeline which consumed S3 upload events in Broadway to run data processing within OBAN.
- Collaborated with the product owners
- Responsible for observability, which allowed us to understand how extremely complicated integration tasks which consume multiple different third party APIs are behaving at every step of the process. This includes ensuring OpenTelemetry instrumentation, of code, training other developers how to use it, writing internal tooling to enable the development experience. (See: "Code samples", otelwrapper.ex)

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<https://github.com/jowrjowr>

- Responsible for CI/CD. Ensured reproducibility, rapid team deployment velocity, and reliability using Docker, NixOS, and Ansible.
- Responsible for automated Infrastructure. This means ensuring that AWS infrastructure was appropriately designed and segmented with Terraform. Also includes security and operations alerting, data lifecycle management, and appropriate secrets management.

2021 - 2022 **Elixir Software Engineer (Contract)**, *Immersiva*, Los Angeles (Remote), USA

- Responsible for a full greenfield product rewrite of a Node.js based prototype game engine into AWS EC2 hosted Elixir, with a LiveView frontend that functions on multiple different platforms. The game engine state machine is a pure Elixir GenServer implementation.
- Custom Auth0 authenticated Content Management System for content development including media uploads into Amazon S3.
- Mentored junior engineers on Elixir best practices.
- Implemented CDN functionality utilizing Cloudfront for game assets.
- Ensured LiveView functionality on multiple different hardware (Phone, PC) and browser (Chrome, Safari, Firefox) platforms.
- Implemented a full OpenTelemetry instrumentation of the state machine and LiveView platform.
- Implemented a full HTML5 Media player Client <-> Server communications in Javascript & LiveView.
- Responsible for ensuring compatibility with other HTML based video players (Eg, Vimeo, Youtube, etc.).
- Built prototypes to test LiveView functionality on SmartTV platforms with TV-native applications.

2019 - Nov 2020 **Elixir Engineer**, *SafeBoda*, Kampala (Remote), Uganda

- Rewrote a 50m/day mobile application API as a PHP->Elixir migration.
- Minimized customer downtime using LaunchDarkly feature flags to move primary code paths.
- Audited PHP and Elixir codebase for security vulnerabilities.
- Architected a migration from Heroku infrastructure to AWS infrastructure managed by Terraform infrastructure as code. This resulted in an approximate 70% infrastructure cost savings.
- Responsible for CI/CD. Ensured reproducibility, rapid team deployment velocity, and reliability using Docker, NixOS, and Ansible.

2019 **DevOps Engineer (Contract)**, *Blast Technologies (Remote)*, Australia

- Development of fully Puppet-managed Asterisk PBX.
- Open sourced Asterisk Puppet work.[Puppet Asterisk module <https://github.com/jowrjowr>]

2018 **DevOps Engineer (Contract)**, *coder.com*, Austin, Texas

- Architected GCP infrastructure for coder.com.
- Implemented migration from CircleCI to Jenkins for self-hosted CI infrastructure.

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- 2013-2018 **DevOps Contractor**, *Upwork - Varied small & medium projects*
- Setup 50 node Chef managed cluster for a visual search engine concept, including a Ceph managed storage backend.
 - Designed a Puppet-managed site deployment solution (~75 nodes) that deploys Wordpress sites as well as interfacing with associated registrar APIs to manage DNS. Hefty amount of Perl glue to accomplish this.
- 2012-2013 **Linux System Administrator**, *Rackspace*, San Antonio, Texas
- Was responsible for handling for RHEL, CentOS, and Debian support for Rackspace EMEA customers while simultaneously serving as an escalation point within my team for more complicated tasks.

Notable Personal Projects

- An implementation of EVE Online Industry with an Elixir LiveView frontend. Was instrumental in my initial learning of LiveView and continues to be extremely useful for making large amounts of game currency to plan my industry activities. The project is open sourced and it is up on my github. [<https://github.com/jowrjowr/eveindustry>]
- A conversion of a legacy PHP application that serves approximately a thousand users into a Python based REST API built upon Flask. This includes a core authentication migration into LDAP. This application interfaces with a large number of 3rd party external APIs. The purpose of this was to teach myself modern Python and support the IT infrastructure of an entity within a game I played. Ended up open sourcing it all once everything was decommissioned. [https://github.com/jowrjowr/tri_api]

Education

2009 **Bachelor of Science in Physics**, *University of Alaska*, Fairbanks, US

Technical Skills

Programming & Scripting Languages	Elixir, Python, Javascript, Bash.
Operating Systems	Linux.
Cloud & Virtualization Providers	AWS, Google Cloud, VMWare.
Configuration Management	Puppet, Ansible, Chef

References

[Puppet Asterisk module <https://github.com/jowrjowr/puppet-asterisk>]
[https://github.com/jowrjowr/tri_api]

[<https://github.com/jowrjowr/eveindustry>]

[<https://business.adobe.com/summit/2023/sessions/activate-beyond-adobe-solutions-integrate-adobe-ev->

[<https://gist.github.com/jowrjowr/56a36a3da9a039038b8504b73bfe2461>]