Josh Finnie

Senior Full Stack Software Engineer

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Summary

A seasoned Full Stack Software Engineer focused on **APIs**, **architecture**, **scalability**, and **DevSecOps**. Proven leader and mentor with a history of driving massive efficiency gains, including reducing system downtime by **90%** and optimizing data transfer by **80%**.

Work Experience

Senior Software Engineer   May 2023 - Present

People Data Labs   *Remote, USA*

Focusing on building scalable APIs and cloud-based solutions that enhance customer interactions with data, and collaborating with design to bring joy to internal users of our Admin Website.

Technologies: Python, Rust, TypeScript, React, AWS, Pulumi, Flask, PostgreSQL

- **API Development:** Spearheading backend API development for data access using **Python** and **Flask**, enhancing customer interactions and ensuring high performance and scalability, reducing data access issues by 50%.
- **Project Leadership:** Coordinating cross-functional teams for monthly data update launches between API and Data teams, ensuring seamless and timely releases and effective stakeholder communication.
- **SDK Development:** Contributing to developer experience by authoring the **Rust** SDK and contributing to multi-language SDKs (**Python**, **Go**, **JavaScript**), improving developer experience for internal and external users.
- **Front-End Development:** Leading complex frontend initiatives to build internal admin interfaces with **React** and **TypeScript**, empowering sales and support teams to efficiently serve customers and enhancing overall operational efficiency.

Staff Software Engineer   May 2022 - Mar 2023

IndigoAg   *Remote, USA*

Contributed to Carbon by Indigo, enabling farmers to generate revenue via sustainable practices and verified carbon credits. Collaborated with external partners integrating data into carbon sequestration models.

Technologies: Flask, Python, PostgreSQL, Docker, AWS

- **API Development:** Designed and developed a next-generation Carbon Sequestration API with **Flask**, delivering a scalable, high-performance platform that directly met stakeholder goals and business objectives.
- **Project Leadership:** Led end-to-end project design and implementation for a critical third-party integration, collaborating closely with external software teams to ensure seamless customer onboarding and achieving a 35% increase in user adoption.
- **Mentorship:** Provided direct mentorship to junior engineers, fostering their skill development and establishing engineering best practices to cultivate a culture of continuous improvement and high-quality code.
- **Documentation & Process Improvement:** Authored comprehensive technical docs for company-wide data backfill, boosting operational efficiency and safety by 75%.

Senior Software Engineer   Sept 2019 - May 2022

Public Broadcasting Service (PBS)   *Crystal City, VA*

Led modernization of backend services for PBS.org, focusing on cloud infrastructure improvements and website functionality enhancements.

Technologies: Django, GraphQL, Apollo Client, AWS, CI/CD, Python

- **Legacy Modernization:** Migrated legacy **Django** systems to cloud-native infrastructure, improving scalability, reducing downtime by 90%, and enhancing overall system reliability.

- **GraphQL Architecture:** Led the design and implementation of the GraphQL infrastructure, a major modernization effort that cut data payloads by **80%** and optimized content distribution performance.
- **Internal Tooling**: Developed critical internal tooling written in **Go** to automate microservice provisioning, demonstrating a **systems-thinking mindset** that improved team productivity and long-term maintainability.
- **Security Enhancements:** Championed code quality and security by implementing automated testing pipelines and conducting regular security audits, ensuring adherence to security compliance and best practices.

Senior Software Engineer   Aug 2014 - Mar 2019

TrackMaven/Skyword   *Washington, DC*

Joined TrackMaven as the fourth engineer, contributing full-stack to a leading social media management platform; led integration with Skyword post-acquisition.

Technologies: Django, Python 3, JavaScript, React, Kubernetes, Terraform

- **User Integration & Authentication:** Developed unified login microservice in **Django** syncing authentication for 1000+ users, enhancing security and user experience.
- **Language & Framework Upgrades:** Spearheaded critical language and framework migrations (Python 2 to **Python 3**, CoffeeScript to modern **JavaScript**/**React**), significantly improving system maintainability, performance, and modernizing digital experiences.
- **Leadership & On-Call Support:** Directed Quality and Infrastructure team, enforcing robust engineering standards, championing best practices, and ensuring mission-critical service stability and observability.
- **Scalable Infrastructure**: Co-led **Kubernetes** infrastructure design using **Terraform**, setting the standard for scalable and **maintainable** secure deployments across the platform.

Application Developer   Feb 2012 - Mar 2014

KoanSys, LLC   *Arlington, VA*

First hire at an engineering consulting firm; contributed across contracts including legacy migrations and development of NASA's Interactive Satellite Tracker (iSat).

Technologies: Python, JavaScript, Ansible, AWS, Django, Drupal

- iSat Development: Developed Interactive Satellite Tracker using JavaScript that calculates real-time satellite positions for Science@NASA, **serving thousands of daily users**.
- Cloud Migration: Architected and automated CMS migration from Django to Drupal on AWS with Ansible scripts, **reducing manual deployment time from hours to minutes**.

Technical Skills

Programming Languages: Python, Rust, TypeScript, Go, JavaScript (ES6+), SQL

Backend & Web Frameworks: Flask, Django, GraphQL, React, Apollo Client

Cloud & Infrastructure: Amazon Web Services (AWS), Kubernetes, Docker, Pulumi, Terraform, Ansible, Observability & Monitoring

Databases: PostgreSQL, MySQL, MongoDB

Security & DevSecOps: GitHub Security Hub, Snyk, Dependabot, Security Audits

Workflow & Practices: Git, CI/CD Pipelines, RESTful API Design, SDK Development, Automated Testing, Agile/Scrum, Customer-Centered Development

Education

University of Maryland - Global Campus

Master of Science in Data Analytics (Expected 2027) Current GPA: 4.0

University of Connecticut - Storrs

Bachelor of Arts in Economics (Certificate in Quantitative Economics & Minor in Mathematics)