

# Stephen Wayne

## Experience

**Hashicorp - HCP Vault Radar** | Sr. Software Engineer II/Lead | Oct 2023 - Present

- Promoted from Senior Engineer to Senior Engineer II (nominally Staff Engineer) 2024
- Lead engineer for hybrid SaaS agent, owned from ideation through to customer delivery
- Currently building infrastructure for data plane/control plane/agent communication via SCADA
- Designed agent to operate within private network, interact with services, upload metadata for SaaS consumption
- Designed and owned most of the feature set
- Implemented, delegated, and project managed based on project timelines
- Designed/implemented architecture to incrementally scan services
- Worked across multiple engineering teams to deliver high impact features
- Growing/mentoring/advising other engineers

**Hashicorp - HCP Vault Insights** | Senior Software Engineer/Engineering Lead | May 2022 - Oct 2023

- Designed/implemented SaaS offering to provide business value from Vault Audit Logs
- Leading engineering, mentored and hired other members of the team
- Designed broad architecture for the product, and implemented mission critical systems
- Leading product discovery efforts for the next phase as the key engineer
- Implemented probabilistic data structures to aggregate user activity with low resource requirements
- Designed/implemented relational data model to track/alert on various KPIs
- Developed cohesive testing infrastructure for team to build unit and integration tests for services
- Built the above with Golang, Kafka, Amazon Aurora (Postgres), DynamoDB, Grafana Loki, AWS
- Working closely with Product, Design, Leadership to set broad engineering direction

**Hashicorp - Vault Core** | Software Engineer II | August 2020 - May 2022

- Designed/implemented SaaS product offering as proof of concept for future business
- Designed/implemented [Namespace API Lock](#) for secure multi-tenancy
- Designed/implemented [expiration manager overhaul](#), significantly reducing sev1 incidents
- Implemented activity log to track usage data and overhaul customer billing experience
- Played a significant role in technical interviewing - hired much of the current team

**Sling TV** | Staff Golang Software Engineer | October 2019 - August 2020

- Built system to populate Google Knowledge with Sling catalog, increasing daily user engagement
- Developed standalone Go tool to clean stale data in Cassandra across multiple environments
- Developed multi-stage Docker builds to reduce deployable image size (30x reduction)
- Contributed to multiple scalable microservices in Go
- Improved CI/CD pipeline for multiple microservices

**Josh.ai** | Software Engineer III | April 2017 - October 2019

- Developed a cross-platform date and timezone library
- Designed software architectures for multiple complex, widely-used internal technologies
- Developed REST API for Josh Micro device interaction
- Built various internal tools in Golang and Python
- Built support for multiple complex device integrations
- Built machine learning predictive platform based on user interaction and contextual data
- Designed hardware for embedded Linux platform (Josh Micro)

**SEELab, UCSD** | Graduate Researcher | 2016-17

- Engineered frequency-hopping algorithms for robust wireless communication in noisy settings
- Created drone-based distributed network, with emergency responders as a primary use case
- Developed distributed drone system to detect anomalous chemical signatures
- Developed real-time data visualization tools

**First RF** | Embedded Systems/RF Intern | Summer 2016

- Designed, built, tested and analyzed novel X-Band radar
- Built internal signal processing algorithms and testing software

**NASA Jet Propulsion Laboratory** | Engineering Intern | Summer 2013-14

- Developed models and architecture for small satellite communication in deep space
- Designed experiment to characterize Martian atmosphere by Doppler-tracking balloon-borne probes
- Analyzed multipath signals from GRAIL spacecraft for lunar surface characterization

## Projects

**showCal** | Easily add TV showtimes to your Google Calendar

- React.js front end - OAuth2, showtime data display, calendar add options (in progress)
- Golang backend - implement REST API for React.js client (in progress)
- Hosted on AWS, working towards full CI/CD (in progress)

**Guided Parafoil System** | A novel small-payload delivery system for planetary orbiters

- Sponsored and mentored by NASA Ames Research Center
- Presented the project at the IPPW research conference in Cologne, Germany
- Team lead, designed electrical systems architecture, built embedded software
- Developed control and data acquisition software for Teensy 3.1

## Contact

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## Education

**M.S. Electrical/Computer Engineering**

UC San Diego | 3.8 GPA

CS Research Lab

Left PhD for Industry

**B.S. Electrical/Computer Engineering**

Univ. of Idaho | 4.0 GPA

Summa Cum Laude

## Skills

**Languages/Frameworks**

Golang

Prompt Engineer

C++ 14

C# 3.0

Python 2/3

Matlab

**Other Technologies**

Docker

GitHub Copilot

LaunchDarkly

CI

Unit/integration testing

Automation

Git/Jira

Amazon Aurora (Postgres)

DynamoDB

Cassandra

SQLite/MySQL

Linux/Unix

Kubernetes (learning)

AWS S3 (novice)

## Relevant Courses

Probabilistic Learning

Machine Learning

Data Structures/Algorithms

Distributed Control Networks

Computational Simulation

Digital Logic

Calculus I/II/III

Differential Equations

Linear Algebra

Digital Signal Processing

Embedded Security

RF Circuit Design

Low Power Circuit Design

Advanced Electromagnetics

Antenna Theory/Design