

Alexander Wauck

Long-time software engineer and systems administrator with a great love of automation and an intense focus on security and correctness.

Technical Proficiencies

- Languages: Python, Rust, Go, bash, C, C++, Groovy
- APIs/Frameworks: Flask, SQLAlchemy
- Databases: PostgreSQL, MySQL, Cassandra, MongoDB
- Operating Systems: Debian/Ubuntu Linux, Red Hat Enterprise Linux/CentOS
- AWS Services (primarily EC2, RDS, S3, CloudFront, Route53, and CloudFormation)
- Ops/Deployment Technologies: Salt, Ansible, OpenShift/Kubernetes, Docker, Jenkins, Terraform
- Miscellaneous Software and Related Skills
 - Source control: Git (I remember a little about Mercurial, Subversion, and CVS.)
 - Multimedia production and file formats (somewhat dated)
 - Software reverse-engineering (Sometimes, having the source code doesn't actually help.)
 - Jenkins pipeline and shared library development (I've actually learned to enjoy this.)

Work Experience

NextEra Analytics

St. Paul, MN

December 2022-December 2023

I worked with NEA as a software development contractor on a small (at times one-person) team working on a system for running a third-party power flow analysis tool in the cloud. This work was largely done in Python and involved some DevOps work using Terraform. Highlights include putting together a Docker image to run the Windows-only analysis tool under Linux using Wine, writing a tool in Go to check for EC2 spot instance termination notifications while simultaneously processing the tool's output, and laying the foundation for the piecemeal replacement of the old codebase.

Target

Minneapolis, MN

February 2022-August 2022

I worked with Target as a software development contractor on a small team working on tools for deploying software to Target's custom-built container execution system. My initial focus on this job was improving a secret-management tool written in Python. In addition to bringing its command-line interface in line with standard system tools, I refactored its internal interfaces wherever I could, making use of lessons learned during later development and use.

I also built software using the Kotlin programming language (which I had no prior experience with), writing adaptors to interface with various external systems like LDAP and the change request system.

Land O Lakes

Arden Hills, MN

August 2021-January 2022

I worked with Land O Lakes as a DevOps contractor embedded in a software development team. I routinely deployed the team's software to production and developed a plan for migrating from Azure containers to Kubernetes (AKS).

HealthPartners

Richfield, MN

June 2019-June 2021

I worked with HealthPartners as a DevOps contractor. My job was primarily to maintain, improve, and upgrade several OpenShift clusters. In the course of my work, I wrote a few useful programs, including a webapp (written in Go) to share images. This helped us work around the fact that our network configuration did not allow image uploads to Slack. I also wrote a webhook for GitLab that alerted the team when somebody submitted a pull request to the wrong branch. I was the local expert on a fairly large Jenkins shared library that was used for almost all application deployments.

Securian

St. Paul, MN

August 2018-June 2019

I worked with Securian as a DevOps contractor. I was brought on to improve deployment/operations automation and security, and I made great strides in both areas. I mainly worked with Python scripts and CloudFormation stacks, with EC2 instances being replaceable and run from custom AMIs with auto-configuration scripts instead of configuration management. While I was not able to achieve my goal of routing all management activities through CloudFormation via GitLab CI jobs before the project ended, I made great progress in that direction.

Iron Star Consulting

St. Paul, MN

June 2018-Present

Iron Star Consulting is my DevOps/Development/Security consulting company. I do both medium-term contract work (no more than 6 months) and project-oriented contract work.

Exosite

Minneapolis, MN

November 2015-June 2018

Promoted to Senior DevOps Engineer in May 2017.

At Exosite, I worked as a Senior DevOps Engineer. This means that I kept the company's more than 100 EC2 VMs (including an OpenShift Origin cluster) running, along with many other services both in AWS and outside of it. I achieved this using Salt, plus a variety of Python scripts for infrequent mass changes, plus occasional use of clusterssh for one-off jobs.

I was highly focused on increasing automation to improve Ops productivity and make management of a large number of VMs and other resources by a small team tractable. I also helped Exosite acquire ISO 27001 certification.

CodeWeavers

St. Paul, MN

March 2015-October 2015

CodeWeavers develops a Wine-based solution for running Windows software on non-Windows platforms (e.g. Linux, Mac OS X) and offers software porting/development services. I wrote security-oriented software for a major defense contractor that subcontracted some work to CodeWeavers.

FPX

Bloomington, MN

May 2014-March 2015

I worked on an acquired product formerly called Glider (now Contract Management by FPX), using Python and Django, among other technologies. I worked on both the frontend (using Flight, Bootstrap, and jQuery) and the backend (using Python and Django), coordinating between the two via REST API. This included some non-trivial frontend work implementing a highly interactive feature on top of a third-party component not designed for the task.

Thomson Reuters

St. Paul, MN

March 2013-May 2014

The part of the company I worked for came from the Reuters side; it provides a batch-oriented financial data distribution service.

- Wrote a deployment test suite for a component that previously lacked such
- Tweaked database queries to retrieve additional data sets
- Implemented new functionality (e.g. more detailed usage tracking) in a server-side C++ program

Intradyn, Inc.

Eagan, MN

August 2012-March 2013

Intradyn, Inc. produces Linux-based email archiving appliances. I developed and maintained the software for these appliances.

- Maintained and improved a complex software system written in Python, Bash, Clojure, Erlang, and C++, using Django, PostgreSQL, and RabbitMQ
- Wrote scripts to automatically fix or enhance PostgreSQL databases and RabbitMQ queues in a fail-safe manner on systems I cannot access directly
- Diagnosed and resolved the occasional customer problem

Open Systems International, Inc.

Medina, MN

September 2010-August 2012

Open Systems International, Inc. produces control and monitoring (SCADA) software, primarily for electrical utilities. I was a software developer maintaining and developing three central pieces of user-facing software.

- Maintained and improved complex software written in C#
- Worked around the occasional bug or quirk in Win32
- Reverse-engineered legacy software
- Occasional maintenance of simple software written in C
- Wrote a specification and unit tests for functionality that sorely needed such

Education

Princeton University, September 2009 – June 2010 (Graduate studies)

Gustavus Adolphus College, St. Peter, MN, May 2009, Summa Cum Laude
BA, Dual Majors: Computer Science (GPA 3.807), Mathematics (GPA: 3.71)