

Frank Murphy

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<https://irishduck.net/resume.html>

Skills

- Deep experience with **Rust, Python, JavaScript, TypeScript, Ruby, Scala, Go**, and **C**.
- Full stack experience writing, integrating, and deploying services.
- DevOps experience deploying production applications at scale in **AWS** and **GCP**.
(GKE, EKS, EC2, RDS, S3, Dynamo, SQS, Kinesis, IAM, GCS, Cloud SQL, BigQuery)
- Experience using devops tools and container technologies.
(kubernetes, terraform, awscli, docker, docker-compose)
- Development, debugging, and profiling experience with SQL and ORMs.
(PostgreSQL, SQLite, ActiveRecord, Diesel)
- Integration experience with common NoSQL data stores.
(redis, elasticsearch, cassandra)

Employment History

wallaroo.ai

Staff Software Engineer 2021 - present (fully remote)

- Owned and maintained core technologies including our inference server and data recording system.
- Led whole-product multi-service projects:
 - Migrating our data transfer format from proprietary JSON to Apache Arrow to dramatically reduce latency (30-35% in key CV use cases).
 - Integrating LLM performance improvements like autoscaling, dynamic batching, and concurrent batching into all of the services that manage deployments.
- Planned, coordinated, and negotiated major feature additions and updates with the product organization. Negotiated scope to deliver maximum user value within hard schedule and resource constraints.
- Architected and coordinated feature development across teams. Led planning efforts and mentored junior developers.
- Advocated for and modelled best development practices, including Infrastructure as Code, Design for Test, and test scope (e.g. Test Pyramid).

Censys

Senior Software Engineer 2020 - 2021 (flex)

- Developed and deployed a custom DNS server in Rust, used by our scanning platform to identify open and malicious DNS resolvers across the Internet.
- Designed, prototyped, and tested an L4 operating system fingerprinting microservice in Go.
- Helped scale our Scala services and Go data pipeline in GCS to support scanning the entire IPv4 address space on a daily cadence.
- Coordinated across teams and owned data analysis in BigQuery for rapid response to emerging threats.
- Led several projects, overseeing the development team while working tightly with the product organization to find the right scope for our timeline.
- Wrote documentation, tests, supporting scripts, and configuration to enhance local development workflows for services in a fast-moving startup environment.

Instructure

Senior Software Engineer 2016 - 2020 (fully remote)

- Responsible for planning, costing, developing, and deploying large new features for Instructure's core open source product, [Canvas](#).
- Helped architect and oversee the transition of the standards system from inside the Canvas monolith to a decoupled Ruby on Rails service.
- Profiled and debugged ActiveRecord queries running on Postgres to fix performance issues.
- Helped to develop an entirely new standards front-end using React and Redux.
- Prototyped, developed, and deployed a scalable quiz search feature utilizing an Elasticsearch backend.
- Communicated with product and program management to scope features for maximum user value.
- Deployed and maintained complex software in AWS at scale, used daily by millions of concurrent users.
- Wrote and ran terraform configuration for deployment of new features and services.
- Created and maintained Dockerfiles and docker-compose configuration to aid in local development.
- Crafted and presented technical talks for two consecutive years at the internal company conference (Pandamonium).

Arbor Networks

Software Engineer 2012 - 2016 (flex)

- Lead development of our API initiative. Created shared Python library used by all three product teams.
- Designed performant software to process massive (400TiB) datasets, using a blend of Python and C.
- Integrated with redis and SQLite to create embedded and performant databases on our appliances.
- Scaled I/O performance to handle simultaneous 10Gbps read/write across appliance clusters.
- Found and eliminated several severe security vulnerabilities, including a pre-auth RCE affecting all products.
- Actively advocated for and educated on best security practices, including eliminating CSRF and XSS bugs.

General Electric Aviation

Test Systems Engineer 2009 - 2012 (onsite)

- Wrote and maintained test software and miscellaneous utilities in C and Python.
- Integrated and debugged embedded software on the VxWorks platform.

Projects

- fajita** Prototype CSG [library](#) in Rust.
- petrify** CAD/CAM [framework](#) written in Python.
- github** My username is [AnIrishDuck](#).

Education

Michigan Technological University

Bachelor's Degree in Computer Engineering with an Economics Minor.

Fall 2007 - Spring 2012

GPA: 3.64 (Graduated Cum Laude)
