

About Me

Open Source	Coldstart • Lapdog • Moto • Spelunker • Weep
Education	Carnegie Mellon University: Ongoing MSIS coursework Old Dominion University: 2020 - B.S., Psychology, Distinguished Graduate George Mason University: 2017 - B.S., Computer Science
Talks	Netflix - Threat Modeling and Analysis with STRIDE Volkswagen - Decision Tree classification for residual value calculations Volkswagen - AI/ML for automotive financing underwriting Volkswagen - Blockchain Intro series Sequoia - Distributed user authentication

Professional Experience

Twitter

Software Engineer II: Live Services

San Francisco, CA

Feb 2021 - Present

- Building safety and moderation features in Go to enable healthy conversation in Twitter Spaces on a global scale
- Driving and designing new features for securely delivering Spaces content to users with S3 and Step Functions
- Delivered internal tech talk on worker optimisations at scale as a result of building a global view for live Spaces
- Driving new endpoints and Dynamo schemas to allow for cross-session metadata sharing across Spaces
- Working on improving existing features to support scaling up the Twitter Spaces roll-out to 321 million users
- Working on large scale feature migrations as a result of Periscope shutting down
- Mentoring and assisting new hires and junior engineers within the Live Services org

State Farm

Lead Software Engineer: Sundial Labs Independence Team

Palo Alto, CA

Jun 2020 - Jan 2021

- Served as Alexa engineering lead both within the Independence Team and across 4 other teams
- Integrated a product-wide GraphQL aggregation layer built in Go to optimise client side runtimes
- Scaled core APIs by converting them over from Node.js to Go in order to reduce cost within AWS
- Developed standards for design and decision documentation across all teams
- Assisted with implementing automated pipelines for building and deploying code with Travis, Bespoken, and CDK
- Developed Lambda step functions to improve cost optimisations through archiving stale data from S3 into Glacier
- Built a Python/Selenium web scraping data aggregation tool to collect data for home-based integrations

Volkswagen Credit, Inc.

Lead Software Engineer (Covid-19 Layoff): Innovation Labs
Software Engineer: Innovation Labs

Herndon, VA

Sep 2019 - Apr 2020

Feb 2019 - Sep 2019

- Led technology discussions within the lab and with communications with external partners
- Established a state rebuild mechanism through implementing an Event Sourcing architecture built in Kafka
- Developed a GraphQL aggregation layer for use in VW's e-commerce reservation platform
- Mentored engineering interns through a computer vision project in PyTorch to analyse vehicle images for damage
- Used Python to build an Alexa skill MVP that enables users to sign in and check payment statuses via voice
- Used Python and React to build a prototype data analytics/simulation platform for dealerships nationwide
- Assisted with user interviews and user testing to drive engineering decision making on customer-facing tools
- Gave tech talks on developing with blockchain and machine learning to VW engineers around the world

Discovery Communications, Inc.

Senior Software Engineer (Contract): Media Infrastructure

Silver Springs, MD

Nov 2018 - Jan 2019

- Used Python to develop a streamlined data validation pipeline for analysing Discovery's video metadata
- Worked with AWS Elemental Live APIs to create a client-facing user interface for media delivery with Python
- Implemented authentication functionality for internal media delivery applications using Okta, Angular 2, and Node

Sequoia Holdings, Inc.

Lead Software Engineer (Company layoff): Blockchain

Reston, VA

May 2018 - Jul 2018

- Translated product codebase to Python in order to streamline development on a blockchain MVP
- Delivered company-wide tech talks on blockchain development and design

Microsoft

Lead Software Engineer (Contract): Microsoft Azure Blockchain & ML

Washington, D.C.

Mar 2018 - Apr 2018

- Led architectural design and development for retail blockchain MVP built with React/Node.js
- Led development of pdf classification model within Azure ML team for creating a query portal

Telos Corporation

Software Engineer: Innovation Lab

Intern Software Engineer: Innovation Lab

Ashburn, VA

Aug 2017 - Mar 2018

May 2017 - Aug 2017

- Utilized the Electron framework to build out a desktop blockchain application to track sensitive assets
- Worked with the backend team to configure Hyperledger Composer and build out REST APIs with Flask
- Spearheaded research efforts into blockchain technology and available frameworks to guide project decisioning

Additional Projects

Coldstart

Used Python and the Click library to develop a CLI tool for rapidly creating projects through auto generating file tree structures, Readme files, testing and deployment with Travis, git hooks, and other necessary tools to enable development. Continuing to increase language coverage by researching project fundamentals for different languages and working to streamline CLI process through user testing. I have since migrated this over to a Go/Cobra project that I am calling Orwell.

Lapdog

Built a Slack Bot in Python to streamline issue submissions and logging. Utilises Flask, SQS, and S3 to ingest issues into an SQS queue via a Flask endpoint, and delivers logs on the issue into S3 for further remediation. Takes advantage of the Moto library to create mock tests for SQS and S3 operations in boto3.

Moto

Contributing to an open source AWS boto mock testing library, single handedly building support for Cloudtrail endpoints in Python for boto and boto3, along with increasing coverage for S3 endpoints.

Spelunker

Built a tool in Python to streamline test method generation. Handles generating a test folder, generating mock files and test methods for related methods within the project, and supports method skipping with comment tagging.

Weep

Contributing to Netflix's open source Go/Cobra project, adding increased PowerShell compatibility and improving documentation for new users to utilise the service.