

## Professional Experience

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### Twitter

Software Engineer II: Live Services

**San Francisco, CA**

Feb 2021 - Present

- Building safety and moderation features in Go for Twitter Spaces
- Driving and designing backend work to support a new live tab within the Twitter clients
- Delivered internal tech talk on caching optimisations in Redis at scale to support the new tab
- 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, junior engineers, and interns

### 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
- Developed 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

- 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 an intern 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

### 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 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

## **Open Source**

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### **ConsoleMe**

Contributing to Netflix's open source Python/React web service for AWS IAM and credential management, adding new functionality and integrations with AWS Config for policy and resource rollbacks.

### **Moto**

Contributing to spulec's AWS boto/Python mock testing library, building support for Cloudtrail endpoints for boto and boto3, along with increasing coverage for S3 endpoints.

### **Orwell**

Built a Python/Click CLI for rapidly generating project directories with a file tree, ReadMe generation, git hooks, and CI/CD integration with Travis.

### **Weep**

Contributing to Netflix's open source Go/Cobra CLI, adding increased PowerShell compatibility and improving documentation for NUX.

## **Talks**

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**Twitter:** Local Caching to Protect Redis Schemas at Scale

**Netflix:** Threat Modeling and Analysis with STRIDE

**Volkswagen:** Decision Tree Classification for Residual Value Calculations

**Volkswagen:** AI/ML for Automotive Financing and Underwriting

**Volkswagen:** Introduction to Blockchain

**Sequoia:** Distributed User Authentication With Blockchain

## **Publications**

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"A comprehensive survey of common video streaming protocols", In-progress, 2021

## **Education**

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**Old Dominion University:** 2020 - B.S., Psychology, Distinguished Graduate

**George Mason University:** 2017 - B.S., Computer Science