

## Professional Experience

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### Twitter

Senior Software Engineer: Live Services

**San Francisco, CA**

Feb 2021 - Present

- Driving, building, and launching the Spaces Discovery Tab to users worldwide
- Contributed a 50% DAU growth on the Spaces product through creating the Spaces Tab
- Designed and implemented a global ranking heuristic to improve engagement within the Spaces Tab
- Drove new feature development to allow for promoting and featuring Spaces on Twitter
- Delivered new Spaces functionality for Hosts, orchestrating WebRTC session permissions and limits
- Drove user safety and automated toxicity filters to demply abusive Spaces on the Twitter platform
- Delivered on feature adds and infrastructure work to scale up to Twitter's scale
- Drove a large service migration from AWS into the Twitter Data Centers for live broadcasting
- Mentoring, interviewing, and assisting new hires, cross-functional engineers, and interns

### State Farm

Staff Software Engineer: Sundial Labs Independence Team

**Palo Alto, CA**

Jun 2020 - Jan 2021

- Served as Alexa team engineering lead, working with approximately 5 other engineers
- Managed approximately 21 engineers across web, iOS, and backend teams, hiring 5
- Integrated a product-wide GraphQL aggregation layer built in Go to optimize client side runtimes
- Scaled core APIs by converting them over 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

### Volkswagen Credit, Inc.

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

**Herndon, VA**

Feb 2019- Apr 2020

- 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 analyze 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 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
- Hired and grew engineering team from 2 to 8, while simultaneously curating the intern program
- Interviewed cross-functional product and design candidates for the lab

### 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 analyzing 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

### Sequoia Holdings, Inc.

Senior 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

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

**Washington, D.C.**

Mar 2018 - Apr 2018

- Led architectural design and development for retail blockchain MVP

- Led development of pdf classification model within Azure ML team for creating a query portal

### **Telos Corporation**

Software Engineer: Innovation Lab

**Ashburn, VA**

May 2017 - Mar 2018

- 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

### **Public Bloc**

Co-Founder / Chief Technology Officer

**Washington, D.C.**

Oct 2017 - Feb 2018

- Built out MVP for an ethereum-based project funding platform
- Led hiring and engineering team growth efforts, establishing an initial 6-person engineering team

## **Freelance Experience**

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### **Interviewing.io**

Mentor / Interviewer

**Remote**

Jun 2022 - Present

- Hosting mock interviews and mentoring sessions to grow engineering talent at all levels

### **Dora**

Solutions Architect Consultant / Engineering Lead

**Remote**

Feb 2022 - Present

- Developing CI/CD and AWS Cloud Infrastructure stack with CDK and Python
- Managing IAM Policies and Roles for Eng and Analytics teams
- Hiring, managing, and growing the engineering teams
- Leading conversations on database design, API development, and cloud security best practices
- Leading MVP and v1 architecture design and service creation

### **Onramp**

Teaching Engineer

**Remote**

Aug 2021 - Present

- Mentoring and teaching recent bootcamp graduates in a month long program as they prepare to apprentice at companies like Twitch, Coinbase, and Blend
- Creating teaching materials and projects, providing code reviews and guidance, and 1-on-1 support
- Giving lectures on fundamental Go concepts (testing, data structures, etc.)

### **Ashtech**

Software Engineer

**Ashburn, VA**

Apr 2015 - Feb 2017

- Built out backend APIs and static web pages for third-party clients

## **Open Source**

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### **ConsoleMe**

Contributing to Netflix's open source Python 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.

### **Movienight**

Building a co-streaming application with Go to deliver real-time video viewing parties/chats for users and offer an alternative media delivery tool to AWS Elemental. Leveraging Cassandra to handle user metric logging, Firebase Cloud Firestore to handle storage of video objects, and PostgreSQL to handle video file references and user metadata. Capturing viewing sessions in Docker and orchestrating multiple sessions through Kubernetes, with Memcached serving as the caching solution within containers.

### **Weep**

Contributing to Netflix's open source Weep project, adding increased PowerShell compatibility and improving documentation for new users to utilize the service.

## Talks

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**Twitter:** Spaces Tab Service Overview

**Twitter:** Spaces Tab 101: How to scale out a discovery surface to hundreds of millions of users worldwide

**KubeCon:** Movienight 101: How to Power Video Streaming with Kubernetes and WebRTC

**InternHacks:** Building a Video Streaming Platform in Go

**InternHacks:** Intro to Go

**Twitter:** Building the Spaces Tab and Beta Learnings

**Twitter:** Debugging with traces in Papertrail and Periscope Admin

**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"**, 2021, Internally released at Twitter

## Education

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

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