

## Professional Experience

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### Twitter

Software Engineer II: Live Services

**San Francisco, CA**

Feb 2021 - Present

- Driving, building, and launching the Spaces Discovery Tab to more than 300M users worldwide
- Designed and implemented a global ranking algorithm to improve engagement within the Spaces Tab
- Drove new endpoints and Dynamo schemas 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 demplify abusive Spaces on the Twitter platform
- Delivered on feature adds and infrastructure work to scale up to an audience of 321M users
- Drove a large service migration from AWS into the Twitter Data Centers for live broadcasting
- Mentoring, interviewing, and assisting new hires, junior engineers, and interns
- Received an exceeds expectations rating after first year

### 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 optimize 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

### 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 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 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 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 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

**Public Bloc**  
CTO

**Washington, D.C.**  
Oct 2017 - Feb 2018

- Built out MVP for an ethereum-based project funding platform
- Led hiring and engineering team growth efforts

## Freelance Experience

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**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/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.

## Talks

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**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