

Professional Experience

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/manager 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

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

Freelance Experience

Dora

Solutions Architect Consultant

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
- Leading conversations on database design, API development, and cloud security best practices

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

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.

Movienight

Building a co-streaming application with Go and React 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

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

"A comprehensive survey of common video streaming protocols", 2021, Internally released at Twitter

Education

Old Dominion University: 2020 - B.S., Psychology, Distinguished Graduate
George Mason University: 2017 - B.S., Computer Science