

Education

New York University
Bachelors of Science in Computer Science

Sep 2020 - May 2023
Brooklyn, NY

Experience

NYU High Speed Research Network (HSRN)

Academic Researcher
Brooklyn, NY

February 2021 – May 2023

Parallel File System: Deployed an NSF funded 6PB storage PFS (SeaweedFS) for usage internally and externally to the HSRN. Automated Deployment with Ansible Playbooks and Rust CLI. Benchmarked with Bonie++ and IOR.

Clients: Implemented API of internal broker service for Bash, and did core development on Python, C++, and JS

Audio Conferencing: Created an audio service (Portaudio) in C++ that interfaces with internal broker service.

CI/CD: Developed documentation, linting, testing, deployment (DinD with Kaniko) pipelines for the project in Gitlab

Mentorship: Leader of the student research arm. Managed and onboarded over 110 students over 4 semesters.

Amazon

Software Development Engineering Intern

May 2022 – August 2022

Seattle, WA

Data Aggregation Service: Created a full stack service to visualize last mile delivery data. Created a Typescript React frontend with Polaris styling that calls an AWS backend implemented with Java Lambda Functions, API Gateway, S3, and Internal Amazon Services. Used S3 Select and Spark to filter through about 1TB per query.

Deployment/Observability Pipeline: The service is built with the AWS Typescript CDK. It is validated with unit and integration testing before being deployed through CodeDeploy and monitored with CloudWatch alarms and SNS.

Hewlett Packard Enterprise (Aruba Networks)

Cloud Intern

June 2019 – August 2019

Santa Clara, CA

Estimating Bandwidth: Estimated bandwidth using Auto ARIMA/Prophet and other time series algorithms.

Sparkup

Software Development Engineering Intern

September 2022 – December 2022

Brooklyn, NY

UX Development: Implemented a new feature in React Native App to link names and phone numbers in transactions

Dark Forest

Graphics Intern

December 2021 – February 2022

San Jose, CA

Shader Development: Created a typescript plugin that allows for custom WebGL shaders in the Dark Forest game.

Projects

K3S Cluster: Created a portable resilient fault-tolerant k3s cluster that networks through a wireguard mesh (headscale)

CTF: Built CTF with Docker Compose, Dnsmasq, Postgres, Node MQTT server, Rust/Tide HTTP server and XtermJS

Apps Status: Built an API with Rust, Tokio Async, Axum, and Request that proxies status for my self-hosted apps

Ansible Batch Runner: Used Rust and Clap to create a cli for batch running and managing Ansible Playbooks

Git OpenResty: Created a container that utilized Lua JIT with OpenResty to sync git repos as a git-sync alternative

Reactive Sign: Used AWS IOT, Lambda, and API Gateway to build a interactive LED sign through serverless infra

Synesthesia Visualizer: Create a visualizer that mimics the experience of Auditory Visual Synthesis with librosa and yin. Utilizes AWS infrastructure (autoscaling ec2s in a k8s cluster) for compute and WebVR for visuals

IP Monitor: Used the QT Framework and built a KDE widget to monitor your public and private IP Addresses.

Programming Skills

Langs: Typescript, Javascript, Node, C++, C, Rust, Java, Python, (e)Lisp, Bash/Zsh, MDown, JSON, YAML, L^AT_EX

Tech: AWS, Linux, Emacs, QT, Docker, k8s/k3s Rancher, Nginx, Traefik, ReactJS, Tailscale, MongoDB, Postgres, ...

Certifications

AWS Solutions Architect

September 2021

AWS Cloud Practitioner

August 2021

Stanford Machine Learning by Andrew Ng

July 2020

AWS Fundamentals Specialization

June 2020