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Education

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## New York University

Bachelors of Science in Computer Science

Sep 2020 - May 2023

Brooklyn, NY

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Experience

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## 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.

## NYU High Speed Research Network (HSRN)

Academic Researcher

February 2021 - May 2023

Brooklyn, NY

**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.

## 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.

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Projects

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**Tweet Toxicity:** Used DistilBERT, Pytorch, HuggingFace Transformers, Streamlit and AdamW to classify toxicity type

**Wikipedia Editor Analysis:** Used Spark, LDA, Cohere to find how much Wikipedia editors stray from their domain/topic expertise from Wikipedia dumps. Analyzed 6TB of data using NYU HPC/ SLURM and presented findings

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

**Synesthesia Visualizer:** Create a visualizer that mimics the experience of Auditory Visual Synthesis with librosa and yin. Utilizes AWS infrastructure (autoscaling ec2 k8s cluster) for compute and WebVR for visuals

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

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

**Personal Website:** Self-deployed a BabylonJS website with kubernetes k3s and full CI/CD using Git OpenResty

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

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Programming Skills

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**Langs:** Typescript, Javascript, Node, C++, C, Rust, Java, Python, (e)Lisp, Bash/Zsh, MDown, JSON, YAML, L<sup>A</sup>T<sub>E</sub>X

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

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Certifications

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AWS Solutions Architect

September 2021

AWS Cloud Practitioner

August 2021

Stanford Machine Learning by Andrew Ng

July 2020

AWS Fundamentals Specialization

June 2020