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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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### AWS Bedrock

 Software Development Engineer

*Seattle, WA* 12/2023 — Present

**Bedrock:** Creating Generative AI infrastructure for AWS Bedrock like batch inference and provisioned throughput

### NYU High Speed Research Network (HSRN)

 Academic Researcher

*Brooklyn, NY* 02/2021 — 05/2023

**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 Last Mile

 Software Development Engineering Intern

*Seattle, WA* 05/2022 — 08/2022

**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.

### Hewlett Packard Enterprise (Aruba Networks)

 Cloud Intern

*Santa Clara, CA* 06/2019 — 08/2019

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

### Sparkup

 Software Development Engineering Intern

*Brooklyn, NY* 09/2022 — 12/2022

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

### Dark Forest

 Graphics Intern

*San Jose, CA* 12/2021 — 02/2022

**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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**mnist-wasm:** A custom, resource efficient, rust/wasm nn with jit spawned web-workers, yew, axum, wasm-bindgen

**Sembox:** A drive with semantic searching over doc types with blip, xsum, whisper, bert, cosine similarity, mui/nextjs

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

**Wikipedia Editor:** Used Spark, LDA, Cohere, NYU HPC/ SLURM for variance in editor topics with 6TB of dumps

**Mastodon Status:** Created a Rust Lambda function with a custom Megalodon-rs to push outage status to Mastodon

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

**Resow:** Created a better Craigslist free section with ReactJS, MUI, Open Layers, Express, MongoDB, S3, Mocha, Jest

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

**Synesthesia Visualizer:** Auditory Visual Synthesis Visualizer with librosa, yin, eks, flask, docker, blender, WebVR

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

**Book Recommendation Engine:** Wrote a recommendation engine to group books based on wikipedia page similarity.

**Electronic Trombone:** Made a trombone midi controller using Arduino with capacitive sensing and pid controllers.

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

**Link Checker:** Created a Rust CLI tool with Clap to automate link verification from args, stdin, or files.

**Circular Buffer:** Wrote a header only circular buffer library in an STL style (e.g. templating, custom iterators).

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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*