Sachin Iyer

sachin@sachiniyer.com

https://sachiniyer.com

https://github.com/sachiniyer

Education

New York University — Sep 2020 - May 2023

Bachelors of Science in Computer Science — *Brooklyn, NY*

Experience

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.

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.

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

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

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

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

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

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

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

Programming Skills

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

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*