Sachin Iyer

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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.

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.

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 Reqwest that proxies status for my self-hosted apps

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

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

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

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

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*