

Sayyant Rath

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Education

University of Texas at Dallas | B.S. Computer Science

May 2024

Relevant Coursework: Data Structures & Algorithms, Machine Learning, Database Systems, Operating Systems, NLP

Technical Skills

Languages: Python, JavaScript/TypeScript, Java, C/C++, SQL, HTML/CSS, BASH, Golang, Ruby on Rails, Prolog

Tools & Frameworks: Next.js, React.js, Angular.JS, Node.js, Express.js, RESTIFY, Flask, FastAPI, GraphQL, REST, NumPy, SciKit Learn, TensorFlow, Docker, Kubernetes, AWS, Google Cloud

Databases: PostgreSQL, MongoDB, MySQL, ElasticSearch, Redis, Firebase

Work Experience

Semgrep | Software Engineering Intern

Jun. 2023 – Aug. 2023

- Incoming Software Engineering Intern at Semgrep (formerly R2C, Series C) on the Semgrep Code team

Amazon | Software Engineering Intern

Sept. 2022 – Present

- Developed a performance analysis portal to assist audio providers in optimization and contract negotiators in evaluating providers
- Architected a data pipeline on AWS to process and service metrics such as latency and throughput to users at high traffic loads
- Refined networking configurations between services to enhance application security and reduce data processing times by **95%**
- **Technologies Used:** *Java, React Typescript, ElasticSearch, BASH, various AWS tools*

Shopify | Software Engineering Intern

May 2022 – Aug. 2022

- Automated infrastructure evaluations for services in preparation for BFCM user traffic exceeding **100,000 requests per second**
- Built features for a Ruby on Rails/ React management portal overseeing all services and Kubernetes runtimes at Shopify
- Tracked and visualized package dependencies across **60% of company languages** by utilizing Kafka, Ruby on Rails and React.js
- Produced a chrome extension to visualize PR & CI/CD details in Visual Studio Code to **reduce engineering time by ~30%**
- **Technologies Used:** *Ruby on Rails, React.js TypeScript, Kafka, GraphQL, MySQL, Golang, GCP, Redis, and more*

Arcturus Intelligence | Software Engineering Intern

Jun. 2021 – Aug. 2021

- Constructed **10+ UI tools and map interfaces** for client reporting progressive web app using React.js Typescript, and Kepler GL
- Implemented **25+ business critical backend routes** utilizing an internal RESTful API based around Node.js and KNEX
- Upgraded AWS data pipeline for a business risk forecasting PWA to generate AI insights and save clients **over \$20,000** in losses
- Restructured database and optimized queries & backend routes using RESTIFY, PostgreSQL and KNEX.js to decrease latency
- **Technologies Used:** *React.js TypeScript, RESTIFY, PostgreSQL, Node.js, Kepler GL, Knex.js, AWS, Python and more*

Projects

CometVisor | *Next.js, React.js, Express.js, Node.js, MySQL, Firebase, Python, AWS, FastAPI and more*

Oct. 2022 – Present

- Created **90%** of the frontend for a finance management portal detailing investments, personal finances, and other resources
- Performed vector regression, neural networks, and sentiment analysis to provide insights to users on market and asset trends
- Applied AWS, Firebase Auth, Node.js, Express.js, FastAPI and Python in creating a secure and scalable backend

UTD COVID Analytics Hub | *Python, AWS, React.js, Express.js, MongoDB*

Dec. 2021 – Jan. 2022.

- Employed a Python web scraper and NumPy to obtain, clean and format **1,000+** campus COVID case datapoints
- Architected an AWS, RDS, and Lambda based system to service live COVID statistics to **30,000+ users**
- Generated **6** campus wide data visualizations along with a map view/ geographic breakdown of the cases across **30+ buildings**

Online Portfolio Selection Algorithm Analysis | *Python*

Feb. 2021 – Jun. 2021

- Utilized Python to create, compare & backtest **20+ OLPS algorithms** on a variety of portfolios utilizing real life financial data
- Devised a data preprocessing pipeline to accept **4 types of input files** and process **3.1 million datapoints in < 2 minutes**
- Developed a Python package to easily apply these OLPS algorithms to datasets for use by professional algorithmic traders

HackUTD Hackathon - CometTax | *Python, Express.js, Flask, AWS (MySQL RDS), React.js*

Jun. 2021 – Aug. 2021

- Built a web app to assist college students in tax filing by providing **10+ educational resources** and a Form 1040 generator
- Provisioned AWS Amplify, Lambda, RDS and Python in creating a scalable backend and an automated PDF form filler tool

Leadership & Activities

Microsoft Data Analysis Competition | National Winner

Mar. 2022 – Apr. 2022

- Collaborated with **4 team members** to propose a sustainable energy solution for our community and present findings to judges
- Derived data insights using **Numpy** and **Tableau** to visualize metrics and evaluate the feasibility of the proposed solution