Sai Maduri

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Education

Rutgers University • New Brunswick, NJ September 2020 – May 2024
Computer Science B.S. GPA: 3.9/4.0

Highlighted Coursework

- **Computer Science:** Data Structures, Computer Architecture, Software Methodology, Design & Analysis of Computer Algorithms, Systems Programming, Principles of Programming Languages, Operating Systems, Distributed Systems
- **Mathematics:** Discrete Math I, Discrete Math II, Linear Algebra, Multivariable Calculus

Work Experience

Twitch – *Go, TypeScript, Lambda, SQS, CloudWatch, CDK* September 2022 - Present
Software Development Engineer

Amazon Web Services (AWS) – *Go, ECS Fargate, SQS, CloudWatch, CDK* June 2022 – August 2022
Software Engineering Intern

- Migrated the IVS YouTube Exporter post-processing worker from AWS Batch to an ECS Fargate architecture fed by SQS queue to increase scalability, improving worker throughput by 12% and decreasing failed jobs by 4.2% in the Asia Pacific region
- Built out infrastructure around the worker, adding a DLQ for storing failed export jobs after 3 retries, an API to retrive VOD metadata, a client library for Amazon IVS customers to access the service, and deployed the product to all supported regions
- Implemented traffic shift mechanism to route 5% of YouTube Exporter jobs globally to the newly architected workers, recording and displaying metrics and alarms in a CloudWatch dashboard to analyze service and user behavior in production environments

Bloomberg LP – *Python, Locust, TypeScript, React, Express.js, D3.js, Comdb2, SQL* May 2021 – August 2021
Software Engineering Intern

- Engineered a highly paralellized user-friendly product to load test internal APIs that eliminated the need to write, package, and deploy testing code, leading to a 33% decrease in load testing turnaround time and 37% increase in load testing coverage
- Architected a KPI Dashboard used to provide usage statistics and deliver performance metrics for 650+ APIs and services across 6 internal engineering organizations, utilized by 80+ active monthly users resulting in a 2.8% decrease in service downtime
- Scaled testing service horizontally by creating 5 containerized instances of the worker-launching Python microservice using Docker 3 machine clusters, increasing concurrent testing capacity by over 250% while optimizing CPU load for speed

Bloomberg LP – *Python, Pytest, Docker, BAS, Comdb2, Jira APIs, SQL* June 2020 – September 2020
Software Engineering Intern

- Designed and implemented a lightweight Python micro-service to quickly retrieve IRD calculations for the Bloomberg Terminal's Yield and Spread Analysis (YAS) page, removing legacy dependencies and reducing average user loading time by 12%
- Managed team of 3 interns in creating a client library to facilitate faster automation building for data center ticketing pipelines
- Provided users with a simplified, consistent programming interface to interact with internal and external ticketing systems, allowing engineers to write automation scripts to raise alerts and create Jira tickets 67% faster

Leverton – *Python, Flask, Docker* June 2019 – August 2019
Software Development Intern

- Leveraged proprietary dataset consisting of 30GB of previous client transactions to create a machine learning model to predict Leverton's algorithms' reviewing time of corporate and legal documents to provide clients with an estimated completion date
- Performed hyperparameter optimization and ensemble learning to increase the accuracy of the random forest model to 91.3%
- Assembled a web application to provide prospective clients with a price estimate for reviewing documents using said model, presented the project to the engineering team for future integration to the Leverton Platform

Projects

Augmented Reality Sudoku Solver – *Python, OpenCV, Tensorflow, Sklearn*

- Developed a desktop application to solve a Sudoku board utilizing optical character recognition and computer vision, employing OpenCV to extract and overlay digits on the scanned grid and TensorFlow to recognize digits with 97% accuracy

Skills

- Programming Languages: Java, Python, Web (HTML/CSS/JavaScript/TypeScript), C, C++, Go, SQL
- Tools/Technologies: AWS, Git, Docker, React, Node.js, Flask, Pytest, Locust, Unix

Extra Curricular Activities

South Brunswick Robotics April 2019 – June 2021
President

- Competed in VEX Robotics, placing 11th worldwide in robot skills and 13th in the division at the international stage
- Coordinated meetings and supervised the engineering process, robot design, and documentation of six teams throughout the year
- Actively sought sponsors and organized fundraisers, raising $7000+ annually to cover costs of electronics, metal, and competitions
- Executed events to educate and promote interest in STEM for children of ages 6 to 14 throughout New Jersey
- Spearheaded member tryout and training process by creating a brand new curriculum covering aspects of mechanical engineering, programming, and the design process