KOOROUS VARGHA

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EXPERIENCE

Software Developer

Aug. 2021 - Present

UC Santa Cruz Genomics Institute

Santa Cruz, CA

- Designed a highly scalable Kubernetes cluster using Docker containers with a comprehensive CI/CD pipeline using Google Cloud Build
- Developed a secure full-stack web application utilizing React.js, Material-UI, Express.js, Node.js, Datastore (NoSQL), and Snowflake (SQL), deployable with a CI/CD pipeline through GitHub Actions to Google App Engine
- · Authored system design documents to define architecture and implementation details
- Integrated Single Sign-On (SSO) with AzureAD using MSAL and Identity-Aware Proxy for improved security
- Created a REST API using Flask and Docker to facilitate COVID-19 outbreak investigation by enabling epidemiologists to generate phylogenetic trees
- · Wrote unit tests using Cypress to ensure a high level of software quality, with a 100% code coverage rate
- · Streamlined weekly reporting processes through automation using Google Cloud Functions and Python
- Led the initiative to maintain detailed code and infrastructure documentation on Confluence for improved collaboration and knowledge sharing

Lead Programmer

Oct. 2020 - Aug. 2021

Santa Cruz, CA

UC Santa Cruz LEEPS Lab

- Implemented asynchronous processes and parallelism techniques to optimize legacy applications
- Developed a full-stack multiplayer high-frequency trading platform using Django, Polymer, PostgreSQL, and Redis
- · Created robust REST APIs and performance testing suites to ensure optimal functionality
- · Maintained open communication with lab directors to stay aligned on project deadlines and features
- Created comprehensive documentation using reStructuredText (rST) to improve understanding and usability of the lab's applications and infrastructure

Programmer Intern

May 2020 - Oct. 2020

- Migrated economic experiments to the cloud utilizing DigitalOcean Linux servers for improved scalability
- Consolidated server processes into bash scripts and set up an automation schedule using CRON
- Parallelized stock market simulation data processing and visualization using Matplotlib, Pandas, and Numpy

PROJECTS

Gmail Clone | React.js, Material-UI, Express.js, Node.js, Docker, PostgreSQL

December 2020

- Built a responsive full-stack email application using React and Material-UI, packaged in a Docker container
- Implemented automated unit tests with Puppeteer for increased reliability and efficiency
- · Integrated JSON Web Tokens (JWT) for secure user authentication, improving user privacy and security
- Created a robust REST API defined by OpenAPI, utilizing Node.js and Express to communicate with a PostgreSQL database

AmberDash | Python, Flask, HTML, CSS, JavaScript, Firestore (NoSQL)

January 2020

- Acknowledged by Google for "Best Use of Google Cloud" out of 300+ projects at CruzHacks 2020
- Developed an Android app that leveraged Google Vision to match nearby cars with active amber alerts, utilizing Firebase for data storage
- Built a dynamic dashboard using HTML, CSS, JavaScript, and Flask to retrieve and display data from Firebase on Google Maps

TECHNICAL SKILLS

Languages: Python, JavaScript, Typescript, HTML, CSS, SQL (PostgreSQL), NoSQL, GoLang, Java, C, C++
Frameworks: Kubernetes, Node.js, React.js, Material-UI, Express.js, Django, Flask, Jest, Polymer.js, Terraform
Cloud Services: Amazon Web Services (AWS), Google Cloud Platform (GCP), Snowflake, Cloudflare, DigitalOcean

EDUCATION