

KOOROUS VARGHA

Full Stack Software Engineer

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TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, HTML, CSS, SQL, Java, Go

Databases: PostgreSQL, Snowflake, Redis, Google Cloud Datastore, Firebase

Frameworks/Libraries: Kubernetes, Docker, React.js, Material-UI, Express.js, Node.js, Django, Flask, Jest, Cypress

Cloud Services: Google Cloud Platform (GCP), Amazon Web Services (AWS), DigitalOcean

EXPERIENCE

Software Developer

Aug. 2021 – Present

The Genomics Institute

Santa Cruz, CA

- Developed a React web app that reduced data aggregation times by 99%, by creating an Express.js REST API and writing database queries against Google Cloud Datastore and Snowflake.
- Designed Kubernetes clusters with load balancing that improved latency by 73% using Google Kubernetes Engine.
- Implemented a REST API that graphs COVID-19 tests onto a tree data structure, enabling scientists to efficiently analyze outbreaks, utilizing Flask and Docker. Reduced duplicate request times by 99% using Redis caching.
- Automated the building, testing, and deploying of applications, cutting deployment times by 50%, by creating CI/CD pipelines using GitHub Actions and Google Cloud Build.
- Wrote end-to-end and integration tests with 90% code coverage using Cypress and the Python unit test framework.

Programmer Intern

May 2020 – Aug. 2021

LEEPS Lab

Santa Cruz, CA

- Developed an interactive high-frequency trading platform utilizing D3.js for an enhanced user experience.
- Enabled real-time updates by implementing a Django API based on web sockets, utilizing object-oriented design to store user information in a PostgreSQL database.
- Achieved high throughput and low latency by using Redis to store and process active stock transactions.
- Optimized a stock market simulator, resulting in a 93% decrease in execution time, by using multiprocessing.
- Visualized stock market data that decreased analysis time by creating graphs in Python and Matplotlib.

EDUCATION

University of California, Santa Cruz

Graduated March 2021

Bachelor of Science in Computer Science

3.50 GPA

Coursework: Distributed Systems, Web Applications, Databases, Computer Networking, Machine Learning

PROJECTS

Gmail Clone | *React.js, Express.js, Docker, PostgreSQL*

Dec. 2020

- Built a fully functional email app using React, with features including drafting, sending, receiving, starring, and deleting emails; resulted in a user-friendly interface for efficient email management.
- Implemented a RESTful API with Express.js for data storage and retrieval by querying a PostgreSQL database.
- Strengthened user privacy and security by implementing user login functionality and integrating JSON Web Tokens (JWT), resulting in a secure and seamless login experience for users.

Distributed Database | *Go, Docker*

May 2020 – June 2020

- Created a fault-tolerant distributed database using Docker containers, by implementing data replication and automated data resharding, which resulted in a highly scalable and reliable system for storing key-value pairs.
- Developed an API using Go, enabling clients to easily perform database operations and modify the node count.
- Optimized database performance and capacity by implementing data sharding, resulting in faster processing and efficient use of resources.

AmberDash | *GCP, Flask, JavaScript, HTML, CSS, Firebase*

Jan. 2020

- Awarded "Best Use of Google Cloud" out of 300+ projects by Google at CruzHacks 2020.
- Designed a dynamic dashboard using the Google Maps API, which plotted recent amber alert sightings detected by a Google Vision-enabled Android app.
- Created a Flask API to retrieve and process data from a Firebase database, resulting in a user-friendly interface for real-time monitoring and analysis of amber alert sightings.