KOOROUS VARGHA

Full Stack Software Engineer

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EXPERIENCE

Software Developer   Aug. 2021 – Present
The Genomics Institute   *Santa Cruz, CA*
GCP, Kubernetes, Docker, React.js, Express.js, Node.js, Flask, Python, TypeScript, JavaScript, HTML, CSS, SQL, NoSQL

- Developed a web app that automates the matching of COVID-19 tests to medical records, decreasing data collection times by 99%, by designing the database schema for Google Cloud Datastore and querying Snowflake.
- Designed Kubernetes clusters that reduced response times by 73% by utilizing load balancing, resulting in a 50% decrease in infrastructure costs; achieved a 99.5% uptime by leveraging health checks.
- Created a REST API that graphs COVID-19 tests onto a tree data structure, enabling scientists to quickly detect and analyze outbreaks, by following the microservice architecture using Flask and Docker.
- 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.
- Ensured high code quality and minimized bugs reaching production by writing end-to-end and integration tests with a minimum of 90% code coverage using Cypress and the Python unit test framework.

Lead Programmer Intern   Oct. 2020 – Aug. 2021
LEEPS Lab   *Santa Cruz, CA*

Django, Python, JavaScript, HTML, CSS, PostgreSQL, Redis, DigitalOcean

- Developed a high-frequency trading platform, supporting up to 8 players and 1000 transactions per second; achieved low latency by implementing Redis as an in-memory data store.
- Optimized a stock market simulator by utilizing multiprocessing, resulting in a 93% decrease in execution time.
- Maintained high team velocity by mentoring 5 interns through code reviews, and reduced onboarding time by creating comprehensive documentation.

Programmer Intern   May 2020 – Oct. 2020
LEEPS Lab   *Santa Cruz, CA*

Django, Python, JavaScript, HTML, CSS, PostgreSQL, DigitalOcean

- Migrated experiments to the cloud, which increased concurrent studies by 300%, using DigitalOcean Linux servers.
- Improved server efficiency by consolidating processes into bash scripts and automating them using CRON.
- Visualized stock market simulation data and decreased analysis time using Matplotlib, Pandas, and Numpy.

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, Material-UI, JavaScript, HTML, CSS, Express.js, Node.js, Docker, PostgreSQL*   Dec. 2020
- Built a responsive email app using React.js and Material-UI, containerized using Docker.
- Created a REST API defined by OpenAPI, and utilized Express.js to communicate with a PostgreSQL database.
- Integrated JSON Web Tokens (JWT) for user authentication, improving user privacy and security.

AmberDash | *Python, Flask, JavaScript, HTML, CSS, Firebase (NoSQL)*   Jan. 2020
- Awarded "Best Use of Google Cloud" out of 300+ projects by Google at CruzHacks 2020.
- Built a dynamic dashboard that showcased recent amber alert sightings, detected by a Google Vision-enabled Android app, plotted onto Google Maps using HTML, CSS, JavaScript, Flask, and Firebase.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, HTML, CSS, SQL (PostgreSQL), NoSQL
Frameworks/Libraries: Kubernetes, Docker, Node.js, React.js, Material-UI, Express.js, Django, Flask, Jest, Cypress
Cloud Services: Google Cloud Platform (GCP), Amazon Web Services (AWS), DigitalOcean