# Koorous Vargha

kvargha.com | koorousvargha@gmail.com | linkedin.com/in/kvargha | github.com/kvargha

## Experience

**Full Stack Software Engineer 2** July 2022 – Present
*The Genomics Institute* *Santa Cruz, CA*

- Designed a dashboard in **React.js** and **TypeScript** with 3 million+ data points. Developed an **Express.js** API that integrated a **Google Cloud Datastore** NoSQL database and a **Snowflake** SQL data warehouse.
- Engineered a highly available infrastructure that orchestrated **Docker** containers in **Google Kubernetes Engine**, achieving 99.9% uptime and 73% lower latency.
- Implemented a REST API using **Flask** and **Docker** that created and stored visualizations in **Google Cloud Storage**. Cached requests using **Redis**, achieving an average response time of 37ms.
- Accelerated deployment by 50% by building CI/CD pipelines using **GitHub Actions** and **Google Cloud Build**.
- Created a scalable data pipeline using event-driven architecture. Leveraged **Google Cloud Pub/Sub**, **Storage**, and **Functions** to source and process over 14.5 million files with **Python**.

**Full Stack Software Engineer 1** Aug. 2021 – June 2022
*The Genomics Institute* *Santa Cruz, CA*

- Designed a face-scanning web app, leveraging **WebRTC** and **MediaPipe** machine learning models. Built a **Django** backend to process and store video data in **AWS S3** and in a **PostgreSQL** relational database.
- Developed a user management web app with a 30% user-retention rate, using **React.js**, **Django**, and **PostgreSQL**.
- Built a URL shortener with an auto-expiration feature using **Node.js**, **AWS Lambda**, and **S3**.
- Created a data analytics dashboard leveraging **AWS CloudWatch Dashboards**, and published daily metrics using **Python**, **AWS Lambda**, **EventBridge**, and **PostgreSQL**, capturing 100+ metrics.
- Streamlined deployments by automating AMI and launch template creation in **AWS EC2** using **Terraform**.

**Software Engineer Intern** May 2020 – Aug. 2021
*LEEPS Lab* *Santa Cruz, CA*

- Created a REST API that processed stock transactions for experiments using **Django** and **PostgreSQL**. Implemented **Redis** as the in-memory data store, achieving a throughput of 1000 requests per second.
- Designed a stock trading interface with interactive graphs using **HTML**, **CSS**, **JavaScript**, and **Highcharts**, enabling users to place stock orders and receive updates in real-time using **WebSockets**.
- Decreased runtime by 93% of a stock market simulator by implementing parallelism using **Python** multiprocessing.
- Deployed 3 Linux servers to **DigitalOcean**, and secured **NGINX** web servers with SSL certificates.
- Graphed simulated stock market data to analyze different parameters using **Python**, **Numpy**, and **Matplotlib**.

## Project

**DoomerMeter** | *AWS, Confluent, Apache Kafka, React.js, TypeScript, Node.js, Python, Terraform, CircleCI* June 2023

- Performed real-time sentiment analysis on Reddit, consuming 8.4 million comments per day.
- Sourced Reddit comments with **Python** and **AWS EC2**. Applied sentiment analysis via **Apache Kafka**, **Node.js**, and **AWS Lambda**, and stored daily results in **AWS DynamoDB**.

## Education

**University of California, Santa Cruz** Graduated March 2021
*Bachelor of Science in Computer Science* *3.50 GPA*

## Certification

**AWS Certified Solutions Architect - Associate** June 2023

## Technical Skills

**Languages**: Python, JavaScript, TypeScript, HTML, CSS, SQL
**Databases**: PostgreSQL, Snowflake, Redis, AWS DynamoDB, Google Cloud Datastore, Firebase
**Frameworks/Libraries**: Kubernetes, Docker, Terraform, CircleCI, Apache Kafka, React.js, Material-UI, WebRTC, MediaPipe, Express.js, Node.js, Django, Flask, Selenium, Jest, Cypress
**Cloud Services**: Google Cloud Platform (GCP), Amazon Web Services (AWS), Confluent, DigitalOcean