Prince Odame
Software Engineer

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Over 4 years of experience in design of cloud based systems with scalability. I designed a microservices backend system for my current company that can scale to serve hundreds of thousands of requests.

RELEVANT WORK EXPERIENCE

Software Engineer @ Blue Ocean Robotics
Dec 2019 - Present | Odense, Denmark

▷ Lead developer - backend team. Contributor to systems architecture design.

▷ Built a scalable backend system as a set of microservices on Kubernetes for high availability. Services interact via async events over VerneMQ broker.

▷ Leveraged MQTT for publishing real-time data-updates (events) from robots and the backend, built with Python and NodeJS, to the frontend.

▷ Implemented safety-critical algorithms by designing deterministic finite state machines with XState, for remotely-controlled robots.

▷ Leveraged WebRTC for building real-time peer to peer applications. Optimised such with Gstreamer to take advantage of hardware acceleration.

▷ Developed cross-platform desktop and mobile applications with Electron, Ionic & ReactJS.

Backend Engineer @ SchoolDesk
Sept 2017 - 2019 | Accra, Ghana

▷ Team lead for the backend team.

▷ Designed and built the entire backend for startup, with a team of other developers, using Python (Flask), NodeJS, Cloud SQL and Cloud Datastore.

▷ Redesigned the monolith backend into decoupled microservices deployed as Docker containers on Kubernetes - scalable to serve millions of requests.

▷ Designed a data-sync algorithm that syncs data between local and cloud servers, and users' mobile devices - eventual consistency.

▷ Implemented an async timetable algorithm using GCP's Pub/Sub service.

▷ Leverages rolling updates and zero-downtime data migration to ensure high availability of services.

▷ Built cross-platform desktop applications using ReactJS and Electron.

Backend Developer @ ASQII LLC
Jan - Aug 2017 | Remote

▷ Worked with clients from different origins, converting complex requirements into simpler solutions.

▷ Built backend systems for clients using Python-Flask, hosted on AWS.

▷ Inherited clients' legacy codebase and refactored for easier maintainability.

▷ Designed relational databases in MySQL, PostgreSQL and SQL Server. Handled database optimisations, improved query performance.

Android Developer @ ASQII LLC
May - Dec 2016 | Remote

▷ Developed native mobile apps for the android platform using Java.

▷ Adapted and improved upon codebase for existing mobile apps. Optimised battery usage of such apps by ~35%.

▷ Redesigned existing apps UI/UX using *Material Design* principles.

▷ Built apps that integrates with Firebase Realtime Database and FCM.

System/Database Administrator @ OWASS Basic School
May 2015 - June 2016 | Kumasi, Ghana

▷ Developed a Visual C# application for managing sensitive students data securely stored in encrypted MS SQL Server database.

▷ Implemented a windows service in C#.NET which backs up data to a Python-Django server application hosted on Heroku.

▷ Digitised the institution's workflows through the deployment of several Python and C# applets as windows services and utility desktop applications.

Programming and Robotics Tutor (Part-time Volunteer)
@ Ghana Robotics Academy Foundation
June 2014 - June 2018 | Kumasi, Ghana

▷ Trained high school students in robotics and other STEM fields.

EDUCATION

Kwame Nkrumah University of Science and Technology (KNUST)
2013-2017 | Kumasi, Ghana

BSc Computer Engineering (3.76 GPA)
Best student of year-group.

PERSONAL PROJECTS

mqtt-expressive
github.com/Odame/mqtt-expressive
A utility library to expressively handle incoming MQTT messages in NodeJS by redirecting to specific callback per topic. Heavily inspired by routing in Express.
Typescript, Jest, NodeJS, MQTT

gae-env
github.com/Odame/gae-env
A python package that allows for secure storage of environment variables in Cloud Datastore for Google Appengine projects. Deployed on pypi.
Python, PyTest, GAE, NoseGAE

loggabat
github.com/jaxtisapia/loggabat
Javascript logger for filtering logs you need in production, from logs you need in development/test mode only.
Javascript, Chai, Mocha

Robotic Lawn Mower
A lawn mower that can operate autonomously to clear a predefined piece of lawn.
C/C++, Arduino, Electronics, Algorithm Design

SKILLS

Proficient
Python, Typescript, Javascript
Java, Android
NodeJS, Flask, Django, React, Redux, XState, RxJS, GraphQL
Cassandra, MySQL, MongoDB, SQLite, RxDb, SQL, CQL
MQTT, VerneMQ, WebRTC
Docker, Kubernetes,
Google Cloud Platform, Firebase
TDD, Jest, Chai, Mocha, PyTest, Unittest

Familiar
C#, Celery, .NET
Ionic, React Native, NestJS, Redis
PostgreSQL, Amazon Web Services
Jenkins, Gitlab CI/CD, Bitbucket Pipelines
RabbitMQ, Grafana, Prometheus

NOTEWORTHY AWARDS

2014 - 2017 @ KNUST
Best Student in Computer Engineering, three consecutive times.