JUSTINE OKUMU

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PYTHON DEVELOPER

Skilled Software Engineer with 5 years of experience building scalable web applications, data pipelines, and cloud infrastructure. Proficient in Django, Node.js, React, Next.js and PostgreSQL, with expertise in API optimization, deployment automation, and third-party application integrations like Beyonic. Experienced in data engineering with ETL pipelines, Apache Airflow, Google BigQuery, and Apache Druid. Committed to software efficiency, code quality, and testing frameworks for reliable, maintainable solutions.

● Data Structures and Algorithms ● CI/CD (Continuous Integration & Continuous Deployment) ● Containerization
● Microservices Architecture ● Database Management ● Cloud Computing ● Scalability & Performance Optimization

Languages: Python, TypeScript, SQL
Web: HTML, CSS, JavaScript, ReactJs
Web Services: REST, GraphQL
Web/App Servers: Gunicorn, uvcorn, Nginx
Frameworks: Django, Flask, ExpressJs
Databases: Postgres, MongoDB
Design Patterns: Singleton, Builder, Factory, Facade, Observer, State
SDLC: Agile
Tools: Visual Studio Code, Pip, UV package manager, Docker, GitHub, Slack, Jira
Platforms: MacOs, Heroku, Digital Ocean, AWS, GCP, Portainer, Supabase
Application/Software: (District Health Information Systems) DHIS2

PROFESSIONAL EXPERIENCE

*CAREER NOTE: Completed on-campus studies and currently taking distance education courses to complete a **Master's Degree in Computer Science** (Available for full-time, W-2 employment).*

ZENYSIS TECHNOLOGIES (REMOTE), San Francisco, United States ● 03/2024 – 08/2024
A global technology partner that works with governments, and development funders to build health analytics platforms.

Software Integration Systems Engineer
Develop and maintain data pipeline, Frontend and Backend services
- Migrated the ETL data processing pipeline from Shell scripting to Python, improving code readability, enhancing debugging efficiency, and reducing development time by 40%.
- Engineered a robust data pipeline scheduling and monitoring system by migrating from Jenkins to Apache Airflow, increasing task visibility, improving error traceability, and reducing pipeline failures by 30%.
- Optimized AWS EC2 storage by executing multiple ad-hoc commands to resolve unexpected data discrepancies, ensuring data integrity and improving storage efficiency.
- Implemented efficient Docker image configurations using Docker Compose, streamlining deployment workflows and reducing setup time by 50%.
- Integrated health analytics data sources into the Apache Druid data warehouse, enabling real-time data visualization, accelerating report generation, and improving data exploration capabilities.

__Technologies Used:__ Python, Apache Druid, AWS EC2, Pandas, Flask, Jenkins, Docker, Docker compose, SQL, ReactJs

FIFTYEIGHT (REMOTE), Liverpool, United Kingdom ● 11/2022 – 03/2024
FiftyEight partner with businesses, academia, government and civil society to monitor and address modern slavery, child labour and other human rights challenges.

Software Engineer
Develop and maintain data pipeline and Backend services.
- Built a data extraction pipeline using Python, Pandas, and Postgres, transforming migrant workers' data and loading it into BigQuery, optimizing workflows, and enhancing reporting accuracy.
- Executed multiple ad hoc analytic queries on Google BigQuery, delivering rapid statistical insights that significantly accelerated reporting times and improved decision-making processes.
- Developed customizable analytics dashboard components using TypeScript, React.js, and Chart.js, enabling intuitive data exploration, reducing reporting time by 60%, and cutting ad hoc query requests by over 80%.
- Engineered an automated deployment pipeline using GitHub Actions and Google Compute Engine, reducing deployment time by 95% and ensuring consistent deployment practices.

- Optimized analytics API calls with Django and Django Cache, reducing server hits by 90% and improving API response times by 40%.
- Implemented comprehensive unit and integration testing using Django's testing framework and Pytest, achieving 85% test coverage and improving application stability.

Technologies Used: *Python, Pandas, Google Compute Engine, TypeScript, React, Django, Django Rest Framework, BigQuery, Postgres, Github Actions, Redis, Postman, Pytest, SQL.*

VOYAGE TECHNOLOGIES LIMITED, Kampala, Uganda ● 10/2020 – 11/2022

Voyage Technologies Limited has a product named SafariShare which provides a platform for ride sharing.

Software Engineer

Built and maintained the Safarishare application including its mobile, backend and cloud deployment.

- Engineered a dynamic "Busiest Route" feature using Postgres, PostGIS, and Google Maps API, enabling drivers to identify optimal routes in real-time, improving navigation efficiency and reducing travel delays.
- Integrated Beyonic mobile money payments, streamlining seamless transactions and significantly improving passenger convenience while enhancing financial security.
- Developed an automated trip scheduling system with Node.js, Node-Cron, and Redis, increasing daily posted trips by over 60% through enhanced scheduling precision and improved resource allocation.
- Optimized API calls by implementing TanStack Query, reducing server requests by 50%, enhancing application responsiveness, and improving data fetching performance.
- Automated deployment pipelines with GitLab CI and Docker, reducing deployment times by over 90% while ensuring consistent build environments across stages.

Technologies Used: *TypeScript, React, TanStack Query, Redux, React Context API, Next Js, React Admin, Mobile Money, Postgres, SQL, PostGIS, Gitlab CI, Docker, Ts Lint, Jest, React Testing Library.*

EZYAGRIC, Kampala, Uganda ● 08/2019 – 10/2020

EzyAgric is an agricultural technology company digitizing agricultural value chains.

Software Developer

Build the EzyAgric loan portal, third party integrations and cloud deployment

- Developed a back-office dashboard using Python, Django, and Pandas, replacing manual Excel-based reporting methods and reducing reporting time by 60% through automated data aggregation and visualization.
- Integrated a secure mobile money payment system using Beyonic and Django Rest Framework, enabling farmers to purchase agricultural inputs while earning redeemable loyalty points, enhancing financial inclusion.
- Engineered a streamlined loan processing module leveraging Django and SQL, cutting loan approval time by 40% by automating complex decision logic and improving data accuracy.
- Automated critical financial processes using Django, Celery, and cron jobs, ensuring timely loan reminders, due loan calculations, and payment breakdown notifications, resulting in a 30% increase in on-time payments.

Technologies Used: *Python, Django, JavaScript, React.js, SQL, Google Cloud Engine, Django Celery.*

ACADEMIC PROJECTS

Maharishi International University (2024)

Task Management Platform: This task management software streamlines workflow from inception to completion, enabling admins to assign tasks and track progress in real-time. Developers update statuses seamlessly, ensuring transparency and efficiency. Built with Java, Spring Boot, Spring Security, Mailtrap, Apache Kafka, and Postman.

PERSONAL PROJECTS

Postgres Backend Service 2024: This project provides a PostgreSQL query interface and auto generate APIs based on the database tables. Built with Python, TypeScript, React.js, Django, Django Rest framework, GitHub Actions, Docker, Next.js, Graphene (GraphQL), Monaco Editor.

EDUCATION

Master of Science in Computer Science
(In progress via distance education; expected completion 04/2027)
Maharishi International University, Fairfield, Iowa
Key Courses: Enterprise Architecture, Database Management Systems, Algorithms, Software Engineering

Bachelor of Science in Computer Engineering
Busitema University, Busia, Uganda (07/2019)