

HOSSAM ABOALAZM

Fairfield, IA 52556 • +1-224-591-8864 • hossamhsn74@gmail.com
<https://www.linkedin.com/in/hossamhassan74/>

PYTHON SOFTWARE ENGINEER

Results-driven software engineer with 7 years of experience delivering innovative solutions across data analytics, Fintech and banking, fleet operation management, and customer service. Skilled in Python, Django, FastAPI and cloud platforms like AWS. Expert in REST APIs, GraphQL, real-time features (WebSockets, SSE), and scalable app development. Proficient in DevOps tools like Docker, GitHub Actions, and Nginx for smooth deployments. Strong in Agile practices, SDLC leadership, and performance optimization using Prometheus and Grafana.

- System Design • Software Development Lifecycle (SDLC) • API Development • Microservices Architecture
- Cloud Computing • Performance Optimization • Security Best Practices • Containerization
- Continuous Integration/Continuous Deployment (CI/CD)

Languages: Python, JavaScript, TypeScript, Dart

Web: HTML, CSS, React, HTMX

Web Services: RESTful APIs, GraphQL, WebSockets, Server-Side Events (SSE)

Web/App Servers: Nginx

Frameworks: FastAPI, Django, Django REST Framework (DRF), Flask, Express.js, Flutter

Databases: PostgreSQL, AWS RDS, Redis, MySQL, SQL Server

Design Patterns: Singleton, Factory Method, Abstract Factory, Builder, Prototype

SDLC: Agile, Scrum, CI/CD, TDD, DDD

Tools: Pandas, NumPy, Matplotlib, Pytest, UnitTest, Swagger, OpenAPI, Sentry, Snyk, Firebase, AWS (EC2, IAM, CodePipeline, CodeBuild, ECS, ECR, AWS Secrets Manager, S3, AWS DataSync), Prometheus, Grafana, Git, GitHub Actions, Docker, Confluence, Markdown, Bash Scripting.

Platforms: Amazon Web Services (AWS), Linux, Windows Server, Windows OS

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).

ITWORX, Cairo, Egypt • 07/2022 – 07/2024

AI, Digital Transformation & Cloud solutions. As an end-to-end solution provider.

Senior Software Engineer

- Developed backend services with Python (FastAPI, Django), designed REST/GraphQL APIs, and integrated Firebase for real-time notifications to ensure seamless client-server communication.
- Optimized performance and data handling using Redis, Celery, Pandas, NumPy, and Matplotlib, achieving significant gains in processing speed and resource efficiency.
- Built and deployed microservices using Docker and AWS (RDS, S3, ECS, ECR, Secrets Manager), managed infrastructure with AWS CDK, and automated CI/CD pipelines via GitHub Actions and CodePipeline.
- Ensured code quality and system stability with Pytest (95% coverage), integrated Sentry and Snyk for observability and security.
- maintained detailed documentation while conducting client demos to improve alignment and satisfaction.

Technologies Used: Python, Django, FastAPI, JavaScript, REST, GraphQL, RDS, PostgreSQL, Redis, Celery, Microservices Architecture, CI/CD, Docker, AWS, GitHub Actions, Sentry, Snyk, Pandas, NumPy, Matplotlib, Pytest, Firebase, S3, CloudFront, AWS DataSync, Linux, Bash, Agile, Scrum.

EFINANCE, Cairo, Egypt • 07/2021 – 07/2022

Banking, financial services, payment solutions, and card management.

Software Engineer

- Developed an OCR backend service using Tesseract and OpenCV, integrated with an eKYC mobile app to enable accurate data extraction from government IDs and automate bank client verification.
- Redesigned a legacy CMS by building RESTful APIs with Django and DRF for managing historical customer data.
- Improved database performance for 10M+ customer records by optimizing SQL queries, indexing key columns, and implementing stored procedures for batch operations.
- Streamlined deployments by creating a custom CI/CD pipeline with Azure DevOps and GitHub Actions, reducing rollout time by 60%.
- Led Agile planning and partnered with other teams to ensure compliance with PSD2 and GDPR banking standards.

Technologies Used: Python, Django, Django REST Framework (DRF), React.js, Redux, REST, Docker, Azure DevOps, PostgreSQL, SQL, Tesseract, OpenCV, JWT, OAuth 2.0, GitHub Actions, CI/CD.

HOOD, Cairo, Egypt • 02/2021 – 07/2021

SaaS-based fleet management platform.

Software Engineer

- Developed a SaaS Fleet Management Platform from the ground up, creating RESTful APIs using Django and DRF to enable real-time monitoring and control of fleets, leading to a 40% boost in operational efficiency.
- Utilized Docker to containerize both React and Django apps, ensuring consistent deployment across environments and reducing deployment time for updates by 35%.
- Built dynamic single-page applications with React, refining the user interface to deliver a seamless and engaging experience.

Technologies Used: *Django, Django REST Framework (DRF), React, Docker, RESTful APIs, PostgreSQL, JavaScript, Git, AWS, CI/CD, Agile, GitHub Actions, HTML, CSS, Clubhouse, Jira.*

TACTFUL AI, Cairo, Egypt • 03/2020 – 02/2021

SaaS platform for managing communication channels.

Software Engineer

- Engineered RESTful APIs using Flask for a Unified Cognitive Customer Platform, enabling personalized, interactive customer interactions, Improving platform functionality and user experience.
- Developed AI-powered chatbot modules using Node.js and Express for a SaaS platform, automating customer support tasks and boosting engagement by 35%.
- Contributed to the development of dynamic single-page applications with Vue.js, creating rich, interactive user interfaces that enhanced the platform's usability and user retention.

Technologies Used: *Python, Flask, Node.js, Express.js, Vue.js, Git, GitHub, Docker, Postman, Jira, Slack, MySQL.*

MARRIOTT INTERNATIONAL, Cairo, Egypt • 08/2017 – 11/2019

A leading global hospitality company with a broad portfolio of hotels and related lodging facilities.

Database & System Administrator

- Administered and maintained SQL and PostgreSQL databases, ensuring optimal performance, security, and regular backups.
- Provided Linux system administration, including server setup, configuration, patch management, and performance tuning using Bash scripting.
- Automated routine system tasks and deployment processes through Bash scripts, enhancing operational efficiency and minimizing downtime.

Theologies Used: *Linux, Bash Scripting, PostgreSQL, MS SQL Server, Apache, Nginx.*

FREELANCE EXPERIENCE**AICOM, Riyadh, Saudi Arabia • 2024**

AICOM is an intuitive AI-powered platform designed to simplify data analysis and management.

Senior Software Engineer (Remote)

- Designed and optimized REST APIs and WebSockets connections for high-performance communication between the platform and AI services, guaranteeing fast and efficient data retrieval and response generation, with a focus on scalability.
- Integrated monitoring tools (Prometheus, Grafana) to track API performance, service uptime, and data flow, enabling proactive issue resolution and maintaining system reliability.
- Maintained deployment pipelines on GitHub Actions, automating continuous integration and deployment for consistent and reliable service delivery across all environments.
- Managed infrastructure setup (Nginx, DNS, SSL certificates, Docker) to ensure the security and reliability of all backend services, providing a robust foundation for AI-driven interactions.

Technologies Used: *Python, Django, REST APIs, WebSockets, SSE, GitHub Actions, Prometheus, Grafana, Nginx, Docker, Linux, AWS, API Security, Swagger, CI/CD, Microservices, PostgreSQL, Redis, JSON.*

EDUCATION**Master of Science in Computer Science**

(In progress via distance education; expected completion 04/2027)

Maharishi International University, Fairfield, Iowa

Key Courses: *Database Management Systems, Cloud Computing, Algorithms, Web Application Programming*

Bachelor's in Information Technology

Faculty of Computers & Information Technology, Menofia, Egypt (07/2017)