

# Youssef Ahmed Hassan Genedy

Software Engineer

[GitHub](#) | [LinkedIn](#) | [Portfolio](#) | [youssef.ahmed29@gmail.com](mailto:youssef.ahmed29@gmail.com) | +201091956954 | Cairo, Egypt

## SUMMARY

---

Software Engineer with 3+ years of experience and open-source contributor with a strong focus on building scalable platforms. Currently working at e& Egypt, working with **Java**, **Node.js**, **Python**, and **Go** across backend services and system integrations. Experienced in designing reliable solutions, optimizing performance, and working with APIs and databases.

## PROFESSIONAL EXPERIENCE

---

### e& (Etisalat) Egypt

08/2024 – Present

Software Engineer

- Built a Node.js data migration tool between MongoDB and OracleDB, processing over 200,000 records daily in production.
- Designed and developed the Chatbot KPI backend from scratch using Node.js, cutting production bugs by ~40%.
- Contributed to chatbot system design, integrating LLMs to enhance response quality and user satisfaction.
- Developed a Spring Boot microservice for chatbot node management, using PostgreSQL and Redis caching and connected it with MinIO (S3) for asset handling.
- Implemented and refactored core chatbot backend features in Spring Boot, including API security, conversation sessions, node building flow, and a back stack for chat navigation.
- Built a Background Analytics Service in Spring Boot using Redis Streams with producers, consumers, and groups for async conversation analysis and KPIs.
- Developed the Analytics Backend using Spring Boot and OpenSearch, with Docker sync jobs between MongoDB and OpenSearch for analytics data updates.
- Wrote and maintained unit and integration tests for backend services, improving system reliability.
- Applied object-oriented design principles (SOLID) and clean architecture to ensure maintainability and scalability.

### Master Micro

12/2022 – 05/2023

Software Engineer Intern

- Created utilities for the front-end using Qt framework.
- Refactored existing codebases, improving overall efficiency and maintainability by 20%.
- Enhanced system functionality and performance by developing and implementing optimized algorithms.
- Developed robust interfaces to ensure seamless integration between front-end and back-end systems.

## OPEN SOURCE CONTRIBUTIONS

---

### Joplin

Open-source note-taking app with cross-platform sync and end-to-end encryption.

Tech Stack: TypeScript, React Native, Electron, Node.js

[View Contributions \(PRs\)](#)

- Mobile & Desktop: Implemented automatic sync when the app opens or resumes from background.
- Desktop: Fixed theme and validation issues in the E2EE setup dialog.
- Desktop: Improved notebook search by making GotoAnything accent-insensitive.
- Mobile: Implemented note attachments management screen.
- Mobile & Desktop: Add authentication button for Dropbox/OneDrive sync

## PROJECTS

---

### Reward-Based Credit System

AI-Driven Reward & Credit Management System

- Developed a scalable backend using Go (Gin), PostgreSQL, and Docker with clean architecture.
- Implemented JWT authentication, user/admin roles, and wallet-based credit and point system.
- Built full CRUD APIs for users, purchases, redemptions, and AI-driven product recommendations.

- Integrated Swagger docs and GitHub Actions CI.

### Simple Shell

UNIX Command Language Interpreter

- Developed a basic shell program in C, providing a command-line interface for OS interaction.
- Implemented built-in commands like env, exit, setenv, and unsetenv.
- Added features such as command parsing, I/O redirection, and background process execution.

### Monty Interpreter

Bytecode Interpreter in C

- Built a Monty bytecode interpreter in C to execute scripts line by line.
- Implemented stack (LIFO) and queue (FIFO) execution modes.
- Added opcode support for arithmetic, rotation, output, and control flow.
- Designed parsing and execution flow with robust error handling for invalid opcodes and memory failures.
- Demonstrates strong understanding of parsing, execution flow design, and stack/queue data structures.

## SKILLS

---

**Programming Languages:** Java, Python, JavaScript, TypeScript, Go, C/C++

**Databases & Storage:** PostgreSQL, MySQL, SQLite, OracleDB, MongoDB, Redis, MinIO, OpenSearch

**Software Engineering:** OOP, SOLID, REST API Design, Asynchronous Programming, Unit & Integration Testing

**Backend & Frameworks:** Node.js, Express.js, NestJS, Spring Boot, Flask, Gin

**DevOps & Tools:** Docker, Nginx, Linux, Bash, Git/GitHub, GitHub Actions (CI/CD), npm/yarn

**Security:** JWT, OAuth, OIDC, Keycloak, API Security, MFA, Input Validation

## EDUCATION

---

### ALX Africa

02/2023 – 04/2024

Software Engineering

- Completed a comprehensive Software Engineering program focused on mastering fundamental engineering concepts and developing advanced coding skills in areas such as backend development, system design, and data structures.

### Helwan University

09/2019 – 05/2024

Bachelor of Science in Computer Engineering

- Academic Grade: Very Good
- Graduation Project: Developed an Embedded System Security Evaluation Tool (sponsored by EGY-CERT) for assessing IoT device security. Implemented features for communication bus monitoring, data sniffing, message replay, and manipulation, enhancing cybersecurity evaluation with user-friendly data visualization.

## LANGUAGES

---

### Arabic

Native / Bilingual Proficiency

### English

Professional Working Proficiency