

# Youssef Ahmed Hassan Genedy

## Software Engineer

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### SUMMARY

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Software Engineer 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. Passionate about building maintainable, high-quality systems and improving them through automation and solid architecture.

### PROFESSIONAL EXPERIENCE

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#### 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

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#### Joplin

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

- **Tech Stack:** TypeScript, React Native, Electron, Node.js
- **Contributions:**
  - 1. Mobile & Desktop:** Implemented automatic sync when the app opens or resumes from background.
  - 2. Desktop:** Fixed theme and validation issues in the E2EE setup dialog.
  - 3. Desktop:** Improved notebook search by making *GotoAnything* accent-insensitive.
  - 4. Mobile:** Implement note attachments management screen
- **PRs** 📄

## PROJECTS

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### 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 & point system.
- Built full CRUD APIs for users, purchases, redemptions, and AI-driven product recommendations.
- Integrated **Swagger docs**, **GitHub Action 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.

## SKILLS

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### Programming Languages

Java, Python, JavaScript, TypeScript, Go, C/C++

### Databases & Storage

MySQL, SQLite, MongoDB, Redis, OracleDB, PostgreSQL, Redis, MinIO, OpenSearch

### Software Engineering

OOP, SOLID, REST API Design, Asynchronous Programming, Unit & Integration Testing

### Tools

Git, npm/yarn, Logging, Monitoring

### Backend & Frameworks

Node.js (Express, NestJS), Spring Boot, Flask, Gin

### DevOps & Infrastructure

Docker, Linux, CI/CD (GitHub Actions), NGINX, Bash

### Security

API Security, Authentication, Input Validation, Secure Coding Practices

## EDUCATION

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### Software Engineering

02/2023 – 04/2024

ALX Africa [↗](#)

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.

### Bachelor of Science - BSC in Computer Engineering

09/2019 – 05/2024

Helwan University [↗](#)

- **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

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### Arabic

Native/Bilingual Proficiency

### English

Professional Working Proficiency