

# Omar Afifi

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## Summary

Computer & Systems Engineering student who translates theory into practice by building a diverse project portfolio, from full-stack mobile and web applications, Java desktop tools to hardware-integrated IoT systems, currently specializing in cross-platform mobile development as a Flutter Developer.

## Skills

- Java . JavaFX . C . C++ . Dart . Flutter . Python . HTML . CSS . JavaScript . Node.js . SQL . NoSQL . OOP . DSA . Git
- Arduino . ESP32 . PCB Design . Proteus . Fritzing . Microsoft Office
- Web Development . Mobile Development . Embedded Systems & IoT . English (Fluent), Arabic (Native)

## Experience

### Flutter Developer Trainee

[DEPI](#)

Jun 2025 - Present

- Selected for a competitive, intensive 6-month training program focused on advanced cross-platform development, fully sponsored by the Ministry of Communications and Information Technology (MCIT).
- Undergoing 200+ hours of intensive, mastering core and advanced Flutter principles, including Dart fundamentals, advanced state management, UI/UX basics, backend integration with Firebase, and version control with Git/GitHub.

### Software Engineer Intern

[ZAGSYSTEMS](#)

Jun 2024 – Sep 2024

- Engineered the Z-Garden smart irrigation system using IoT technology, covering the full lifecycle from initial concept and prototyping with Arduino and ESP32 to final implementation.
- Expanded the company's digital presence by developing and integrating a new "Services" section, featuring 4+ dedicated pages, and a "Partners" section on the corporate website.

## Projects

### Cross-Platform Finance Tracker

[FinFlow](#)

- Created a full-featured finance tracking application using Flutter and Supabase, deploying a single codebase across 4 distinct platforms (iOS, Android, Web, Windows).
- Integrated secure user authentication and data persistence using Supabase Auth and Database, ensuring all user financial data is 100% protected and synced across devices.
- Designed an intuitive UI incorporating 3+ key features (a central dashboard, custom categorization, and transaction filtering) to provide users with clear, actionable insights into their financial habits.
- Managed application state efficiently using the Provider package to maintain a consistent 60 FPS ensuring a responsive and seamless user experience across all platforms.

### Portfolio Website

[Omar-Afifi](#)

- Built and deployed a full-stack personal portfolio from scratch, showcasing 5+ major projects and 20+ technical skills.
- Achieved a 90+ score on Google Lighthouse by implementing a modern, responsive UI/UX design.

### IoT-based Smart Irrigation System

[Z-Garden](#)

- Developed a solar-powered IoT irrigation system to monitor 7+ key environmental metrics, including soil moisture, water quality (TDS, pH), atmospheric conditions, and pump status.
- Engineered an automated control system with user-defined thresholds and a critical fail-safe feature, preventing pump damage from dry-running and increasing operational lifespan by over 50%.
- Integrated a flexible power solution featuring an 18V solar cell, a battery with up to 20 hours of life, adapter input, and convenient dual USB ports.
- Enabled real-time monitoring of 7+ key environmental metrics via 2 distinct interfaces: a cross-platform application for 3 platforms (iOS, Android, and Web) and a local LCD for on-site display.

Interactive Game

[Digging Jim](#) 

- Developed an interactive 2D game using Java and JavaFX, featuring engaging gameplay mechanics and user interfaces.
- Implemented real-time game updates, animations, and game logic to enhance player experience, maintaining a consistent 60 FPS to ensure smooth, high-quality gameplay.

Grade Management System

[Student Grade Analyzer](#) 

- Designed and built a user-friendly interface in JavaFX for efficient student data management, with 5+ core features including tools for adding, viewing, and sorting records.
- Implemented and benchmarked 3 advanced sorting algorithms (Quick Sort, Merge Sort, Radix Sort), demonstrating performance improvements of up to 300% over standard library sorts on large datasets.
- Automated the generation of comprehensive 8+ key statistical reports (mean, median, mode, range, etc.) and visualized grade distributions with interactive bar charts for clear evaluation.
- Ensured data integrity and session persistence by integrating seamless Excel (.xlsx) import/export functionality and a JSON-based storage system, capable of processing and managing datasets of over 10,000+ student records efficiently.

Certifications

- **Flutter and Dart: Developing iOS, Android, and Mobile Apps** . IBM . Issued Jul 2025.
- **Flutter Development Badge** . Google . Issued Jun 2025.
- **Sprint Up - Mobile Development by Flutter** . Sprints . Issued Jun 2025.

Education

Bachelor of Engineering

Zagazig University

*Zagazig, Egypt*

**Sep 2022 – Jun 2027**

- Major: Computer and Systems Engineering.
- Overall Grade: Very Good.