

Youssef Hamada Youssef Aissa

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Career Objective

- Motivated second-year Computer Science student with a strong foundation in complex problem-solving and hands-on software development.
- Brings a unique blend of technical focus in cybersecurity and a strategic interest in business operations.
- Proven ability to execute end-to-end projects, leveraging collaborative experience from 5 intensive STEM capstones and multiple university-level technical initiatives.

Education University of East London (Hosted at EUE Campus) | Cairo, Egypt *Bachelor of Science in Computer Science* | Expected Graduation: June 2028

- **Academic Standing:** Excellent
- **Relevant Coursework:** Discrete Mathematics, Software Development, Front-End Development, Computer Networks, Project Management

Beni Suef STEM School | Beni Suef, Egypt *High School Diploma (STEM Focus)* | Graduated: July 2024

- **Grade:** B
- **Highlight:** Completed an intensive, project-based curriculum focused on science, technology, engineering, and mathematics, including 5 major capstone projects.

Professional Experience E-Commerce Business Owner | Amazon Seller Central | [Dec / 2025] – Present

- Manage end-to-end e-commerce operations, including product sourcing, inventory management, and customer relations on the Amazon platform.
- Successfully scaled business revenue by 300% (from 40,000 to 160,000) within a 3-month period through strategic market analysis and sales optimization.
- Direct product marketing and visual branding, including executing high-quality product photography and designing targeted advertisements for home goods (such as 6-piece knife sets) to maximize listing conversion rates.

Technical Projects Ticket Reservation System (TRS) | *Team Leader & Lead Developer* | Sep 2025 – Dec 2025

- **Technologies:** Java (JDK 17+), OOP, MVC Architecture, Strategy & Observer Patterns, UML
- Led a team to develop a Java-based console application for event management and dynamic ticket booking workflows.
- Engineered a full MVC architecture to ensure code maintainability, implementing a role-based authentication system for admins and customers.

- Applied advanced OOP principles and design patterns (Strategy for payment processing, Observer for notifications) and utilized custom algorithms for event handling and FIFO queue management.

E-Corp Hack Simulation – Penetration Testing Lab | *Lead Penetration Tester* | Jul 2025

- **Technologies:** Kali Linux, Metasploit Framework, Nmap, Python, VMware, Host-Only Networking
- Architected a fully isolated, virtualized penetration testing lab (inspired by *Mr. Robot*) to simulate real-world cyber attacks in a controlled environment.
- Conducted reconnaissance using Nmap and successfully exploited a known backdoor vulnerability (vsftpd 2.3.4) utilizing Metasploit and custom Python HTTP server scripts.
- Executed post-exploitation procedures including privilege escalation and log analysis, mapping the attack life cycle to the Cyber Kill Chain model to develop defensive mitigation strategies.

Restaurant Management System (RMS) | *Team Leader & Systems Analyst* | Feb 2025 – Apr 2025

- **Technologies:** Odoo POS, Database Design, SQL, DFD Modeling, ERD (Crow's Foot)
- Designed a comprehensive business management system integrating order processing, dynamic table reservations, inventory control, and financial reporting.
- Architected a normalized relational database schema featuring over 13 entities and junction tables to handle complex many-to-many relationships.
- Modeled system architecture utilizing multi-level Data Flow Diagrams (DFDs) and automated inventory threshold monitoring to optimize restaurant business operations.

Color Recognition System for Color Blindness | *Lead Technical Developer* | Sep 2023 – Jan 2024

- **Technologies:** PHP, MySQL, XAMPP, HTML, ESP32, TCS3200 Color Sensor, Embedded C/C++
- Developed an end-to-end hardware and full-stack software solution to assist color-blind individuals in accurately identifying colors with up to 95% accuracy.
- Programmed an ESP32 microcontroller and color sensor to capture RGB frequencies, transmitting data via Wi-Fi to a custom-built PHP/MySQL web server for processing and storage.
- Managed database integration, web front-end development, and hardware calibration, delivering a functional prototype within a 3D-printed enclosure.

GreenGrow – Solar-Powered Automated Smart Farm | *Team Leader & Technical Developer* | Feb 2023 – Jun 2023

- **Technologies:** Arduino UNO, C++ (Arduino IDE), IoT Sensors (DHT22, Ultrasonic), DC Motors, Embedded Feedback Control
- Led a team to engineer a fully automated, solar-powered smart farming prototype designed to optimize cultivation and minimize human intervention.
- Programmed embedded C++ feedback logic to process real-time environmental data (temperature, humidity, soil erosion) and automatically regulate climate conditions.
- Integrated a dual humidifier system and motor-controlled erosion protection mechanisms, achieving a 90.28% cooling efficiency and rapid environmental stabilization.

Industrial Dye-House Wastewater Treatment System | *Prototyping Lead* | Sep 2022 – Jan 2023

- **Technologies:** Reverse Osmosis, Chemical Coagulation, TDS & pH Measurement, Prototype Mechanical Design
- Collaborated on the mechanical design and physical construction of a cost-effective, three-stage wastewater treatment prototype integrating chemical coagulation, multimedia filtration, and reverse osmosis.
- Applied scientific calculations (Ideal Gas Law) to optimize system pressure at 770 torr, driving physical purification processes for industrial agricultural and textile water reuse.
- Conducted rigorous experimental testing and data analysis, successfully reducing TDS from 3.19 ppt to 1.08 ppt and neutralizing pH levels from 11.53 to 7.62.

Technical & Language Skills

- **Programming & Scripts:** Java, Python, C/C++ (Embedded), PHP, HTML, SQL
- **Security & Networking:** Kali Linux, Metasploit Framework, Nmap, Penetration Testing, Host-Only Networking
- **Software & Architecture:** OOP, MVC Architecture, System Modeling (UML, DFD, ERD), Odoo POS, XAMPP, Git/GitHub
- **Hardware & IoT:** Arduino UNO, ESP32, TCS3200 Color Sensor, IoT Sensors (DHT22, Ultrasonic)
- **Languages:** Arabic (Native), English (Advanced / B2+)