

Renad Mohamed Elsayy

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Entry-Level Software Engineer | Data Engineer | Software Developer

Summary

I'm a computer science graduate with hands-on experience in database management, software engineering, SDLC, agile, and secure software development. Experienced in building full-stack systems, backend APIs, and AI-driven projects using Python, SQL, and Passionate about scalable software, data pipelines, and secure architecture that combine performance with reliability.

Experience (Academic & Technical Projects)

Graduation Project – Smart Parking System

Grade: Excellent (A)

- Developed an end-to-end smart parking system with mobile app, backend API, and SQL Server database.
- Integrated YOLO model for automatic license plate detection using real-time camera feeds.
- Designed a Flutter-based mobile app supporting registration, login, real-time map, and reservation management.
- Implemented secure password hashing using bcrypt and encrypted sensitive data (e.g., license plates, payment info, user info) with AES-GCM
- Used OpenRoute Service API for navigation and route mapping from the user's current location to the selected parking garage.
- Applied role-based access, dynamic pricing, and automated status updates in SQL Server
- Technologies: Flutter, Python, YOLOv8, ASP.NET Core Web API, SQL Server, OpenRoute Service, JWT, AES, bcrypt

Online Reservation System (Hotels, Flights, and Car Rentals)

- Developed a full-featured online reservation system in Java, supporting hotel, flight, and car rental bookings.
 - Applied Object-Oriented Programming (OOP) principles and implemented multiple Design Patterns (Singleton, Factory, MVC, Observer, etc.) to ensure modularity and scalability.
 - Followed Agile methodology for iterative development and team collaboration.
 - Focused on software architecture, reusability, and clean code practices.
- Technologies:** Java, OOP, Design Patterns, Agile, UML

Spotify Music Player (Data Structures Project)

- Developed a console-based interactive music player that allows users to create accounts, choose favourite artists, and manage custom playlists.
- Implemented features such as song search, sorting, shuffle, loop, and playback history tracking.
- Applied data structures (linked lists, trees, stacks, queues) to manage playlists, search operations, and playback control efficiently.
- Designed user authentication (login/signup) and playlist management functions.
- Collaborated as part of a 3-member team following modular programming principles.

Technologies: C++, Data Structures, OOP, Algorithm Design

Hospital Management System – C++ Project

- Developed a user-interactive hospital management system using Object-Oriented Programming (OOP) concepts: classes, inheritance, encapsulation, and abstraction.
- Implemented modules for staff, doctors, nurses, patients, receptionists, departments, rooms, and billing.
- Enabled operations such as adding, deleting, updating, displaying, and searching records for all entities.
- Applied data encapsulation with private variables and access control through setters and getters.
- Designed an interactive menu-driven interface for efficient user interaction.
- Collaborated in a team, distributing workload for different classes and ensuring smooth integration of all modules.
- Gained experience in OOP design patterns, hierarchical class structures, and practical application of inheritance.

Experience

- Full-stack developer Intern at ITI from July 2024 to August 2024.
- Software Developer Intern at Pharmed hc from August 2024 to October 2024

Education

Bachelor of Science in Cybersecurity

Egypt University of Informatics - New Capital, Egypt

Graduated: July 2025

- Relevant Courses: Development of Secure Software Systems, Cryptography and Number Theory, Ethical Hacking and Penetration Testing, Introduction to Data Security, Data Structures, Algorithms Design and Analysis, Computer Architecture,

Technical Skills

Programming & Scripting: Python, C++, Java (Basics), SQL; familiar with OOP concepts, debugging, and automation scripting

Software Development & Design: Object-Oriented Programming (OOP), Design Patterns (Singleton, Factory, MVC, Observer), Agile Development, Software Design Principles, RESTful APIs, SDLC, Version Control (Git/GitHub).

Data Engineering & Databases: MySQL, SQL Server; experience in database design, management, and query optimization.

Web & API Development: HTML, CSS, ASP.NET Core Web API, Postman, JWT Authentication; understanding of RESTful API design and secure communication principles.

Cybersecurity Tools: Vulnerability Assessment, Penetration Testing, Network Security; proficient with Metasploit, Nmap, Wireshark, Burp Suite, GDB, and Linux (Ubuntu/Kali). Basic knowledge of Splunk, Threat Analysis, and Incident Response.

Security & Cryptography: AES, RSA, Elliptic Curve Cryptography, bcrypt Hashing; strong understanding of data encryption, secure storage, and authentication mechanisms.

Other Tools & Technologies: Flutter (Mobile App Development), YOLOv8 (AI Object Detection), OpenRoute Service (API Integration).

SOFT Skills

Communication | Teamwork | Critical Thinking | Leadership | Adaptability | Time Management

CERTIFICATES

ITI: Full-stack web development using Python

Cisco: Introduction to cybersecurity

Mahara Tech: Computer Network Fundamentals

CIB: Digital Transformation and Data Literacy, Human Centric Interpersonal Skills, and Financial Literacy & Entrepreneurial Skills.

Sas: Data Literacy in Practice, and Data Literacy Essentials.

Training & Workshops

Capture the Flag (CTF) challenges at the university level

Practical labs in penetration testing, buffer overflow, and network defense.