

# ASSEM ELQERSH

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## SUMMARY

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Fourth-year undergraduate student majoring in Computer Science Engineering at Egypt-Japan University, expected to graduate in 2026. Skilled in computer vision and machine learning, with proficiency in Python. Enthusiastic about developing and deploying vision-based AI solutions for real-world applications. Currently gaining hands-on experience in advanced deep learning techniques, aiming to apply skills to impactful projects and continue learning in a collaborative environment.

## EDUCATION

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**Bachelor of Computer Science Engineering**, Egypt-Japan University Expected 2026

Relevant Coursework: Algorithms, Data Structures, Computer Architecture, Operating Systems, Software Engineering, Embedded Systems, Computer Organization, Parallel Computing and Distributed Systems, Cryptography, Numerical Analysis, Deep Learning, Computer Vision, Robotics, and Advanced Programming.

## SKILLS

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**Development** Python, Java, PHP, React, JavaScript, Node.js, RESTful APIs, HTML/CSS.

**Database & Systems** MySQL, SQLite, C, C++, Assembly, Verilog, Performance Optimization.

**Technical** System Architecture, Git, Testing, Real-time Systems, Hardware/Software Interface.

## EXPERIENCE

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**Internship** Aug 2024 - Oct 2024

NeuronetiX (Remotely)

- Focused on data cleaning, preprocessing, and feature engineering.
- Gained hands-on experience in Machine Learning by working on real-world projects.
- Participated in live hackathons to sharpen collaboration and problem-solving skills.

**Internship** Aug 2024 - Sep 2024

Mindset (Remote)

- Developed foundational knowledge in machine learning and deep learning, including CNNs and RNNs.
- Conducted statistical analysis and applied data visualization techniques.
- Gained hands-on experience in Python programming, data manipulation using Pandas and NumPy.

**Internship** Aug 2024 - Sep 2024

Creativa Hub Alexandria (Onsite)

- Focused on data cleaning, preprocessing, and feature engineering.
- Learned data manipulation and time series analysis using Python's libraries in a hands-on training environment.
- Built simple data science models to reinforce understanding.

## PROJECTS

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**Personal Assistant** ([View](#))

- Built a voice-controlled Python application with 13+ integrated modules for system automation
- Implemented speech recognition, API integration, and system controls for comprehensive digital assistance

- Added features for weather updates, file management, and hands-free system control

### **Train Ticketing System** ([View](#))

- Developed complete reservation platform using PHP and MySQL with full CRUD operations
- Implemented user authentication, booking management, and payment processing systems
- Designed scalable database architecture to handle concurrent reservations and user management

### **MediTrack-HMS: Hospital Management System** ([View](#))

- Created comprehensive hospital management system in Java with GUI interface
- Implemented patient records management, appointment scheduling, and billing systems
- Designed modular architecture with robust data validation and error handling

### **MIPS Processor Designs** ([View](#))

- Implemented single-cycle and multi-cycle MIPS processors using Verilog
- Designed CPU architecture with instruction fetch, decode, execute, and writeback stages
- Developed comprehensive testing framework for hardware validation

### **Particle Collision Simulation** ([View](#))

- Built real-time physics engine in C using Raylib for interactive particle simulations
- Implemented collision detection algorithms and physics calculations for realistic particle behavior
- Optimized rendering performance for smooth real-time visualization

### **Object Detection App (React)** ([View](#))

- Developed modern web application using React and TensorFlow.js for real-time object detection
- Created responsive UI with live camera feed integration and detection visualization
- Implemented NPM package version for easy deployment and distribution

### **RoboticsProjectsHub** ([View](#))

- Created open-source hub for robotics projects including pathfinding algorithms and control systems
- Developed simulation environments for testing autonomous navigation and decision-making algorithms
- Implemented modular design patterns for extensible robotics applications

### **Real-time Face Detection System** ([View](#))

- Built dual-architecture system with performance optimization and SQLite database integration
- Implemented modular design with comprehensive testing framework and documentation

## **VOLUNTEERING**

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**Treasurer, IEEE EJUST CS SBC** Oct 2024–Present

- Managed budgets for 10+ workshops and seminars, securing sponsorships to cover 100% of event costs.
- Coordinated major events including JAC ECC 2024 and RoboRave 2025, while representing EJUST at IEEE R8 CS SYP Conference 2024.

**TechX Ambassador, IEEE CS SYP** Jan 2025–Present

- Organized hackathons and TechX events across 5 universities, engaging 200+ students and expanding IEEE program reach in the MENA region.

**MENA SYP Ambassador, IEEE R8** Jun 2025–Present