

# Basant Reda Abdelsamad

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## Profile

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Electronics & Communication Engineering graduate (GPA: 3.67/4) with hands-on experience in embedded systems, programming, and signal processing. Passionate about real-world applications of IoT, wireless networks, and microcontrollers. Developed a funded water quality monitoring system as a graduation project. Strong communication and leadership skills through active involvement in graduate initiatives and national conferences.

## Education

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**IAEMS** 10/2020 – 06/2025  
(International Academy for Engineering and Media Science) Giza, Egypt

- Bachelor of Engineering in Communication and Electronics
- GPA 3.67/4

## Skills

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### Technical Skills

- Embedded Systems Development
- Hardware & Circuit Design
- Wireless Communication & IoT

### Soft Skills

- Teamwork
- Time Management
- Problem Solving

## Projects

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**1-Remote Control Monitoring of Fish Farms water quality using Wireless Sensor Networks(Graduation Project)** 10/2024 – 06/2025

- **Grade: A+**
- Developed an innovative system to monitor water quality parameters remotely, focusing on optimizing fish farm productivity.
- **Secured a grant from the Academy of Scientific Research to fund the project.**
- **Conducted under the supervision of the Central Administration for Agricultural Guidance.**
- **Performed experiments at the Institute of Animal Research under the guidance of specialized specialists.**
- **Executed the final experiment at the fish farms of the Faculty of Agriculture, Ain Shams University, supervised by professors and specialists specialized in aquaculture.**
- Utilized wireless sensor networks to collect real-time data on **temperature, pH,** and **dissolved oxygen.**
- Implemented **ESP32** microcontroller-based solution for efficient data transmission and remote access.
- Designed an intuitive interface for continuous monitoring and data analysis, significantly enhancing aquaculture productivity.

**2-Smart Home Automation System**

**3-Door Locker Security System**

## Courses

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### Embedded System

11/2024 – 02/2025

Edges For Training

#### • Topics Covered:

- Basic Concepts of Embedded Systems
- C Programming
- Data Structures (Linked-List, Stack, Queue)
- AVR Microcontrollers Interfacing
- Real-Time OS (RTOS)
- Software Engineering
- Embedded Tools

#### • Projects:

- **Dual-Mode Stopwatch**
- **Smart Home Automation System**
- **Car Parking Assistance System**
- **Door Locker Security System**

## Student activities

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### Student Union, *Cultural Committee Member*

- Actively contributed to the university's Student Union as a member of the Cultural Committee, promoting cultural engagement and organizing events to enrich the student experience.

### Edu Hub Exhibition

08/2024

- Led the organization and management of the university's booth, showcasing academic programs and specializations to prospective students. Coordinated the overall exhibition, including daily activities, divisions, and objectives, ensuring a cohesive and impactful event.

### Edu Gate Exhibition

12/2024

- Organized and managed the university's booth, effectively representing the institution and introducing its programs to attendees, enhancing visibility and engagement.

### University Orientation Program

- Supported new students during orientation by guiding them through the campus, explaining the application process, and helping them acclimate to the university environment.

## Publications

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### Fault Detection in Transmission Lines using Gaussian Naïve Bayes

- Presented at "Visions of Future Cities" Conference, May 2025
- Applied ML to smart grid fault diagnosis, enhancing reliability in power systems.

## Languages

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- English (B2)
- Arabic(C2)

## Certificates

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- Embedded System [☑](#)
- Enlightenment Training about the Field of Media Production and Broadcast Engineering [☑](#)