Ramadan Mohamed

Electrical & Embedded System Engineer

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LinkedIn • GitHub

I graduated from the Faculty of Engineering, Assiut University, specializing in Computer and Control Engineering. My academic background equipped me with a strong foundation in C, C++, Electronics, and Embedded Systems, along with hands-on experience in Arduino, Raspberry Pi, microcontrollers, and PCB design. I have worked on various projects that enhanced my practical skills in hardware design, programming, and system integration. I am passionate about embedded systems engineering and committed to applying my expertise to develop innovative, reliable, and efficient solutions that address real-world challenges.

Education

Bachelor of Computer and Control Engineering at Assiut University, Egypt

October 2020 - July 2025

Graduated with a solid foundation in electronics, control systems, programming (C/C++), and embedded technologies. Gained hands-on experience with Arduino, Raspberry Pi, microcontrollers, and PCB design through academic and extracurricular projects.

Skills

Technical Skills: Embedded Systems Development (C, C++, Embedded C), Microcontrollers (Arduino, ESP, AVR, PIC, STM32, Raspberry Pi), Communication Protocols (UART, I2C, SPI, CAN), RTOS, Electronics Circuit Design & Debugging, Sensors & Actuators Integration, Hardware Testing & Troubleshooting, PCB Design

Additional Skills: Problem-solving & analytical thinking, Collaboration & teamwork, Strong communication skills

Volunteering

AC Member at Robotics Team

October 2023 - January 2025

- As an AC member of the robotics team, I teach C programming and Arduino, mentor team members, and contribute to developing and implementing robotics projects, ensuring successful collaboration and completion.

AC Head at Robotics Team

January 2025 - May 2025

- As the AC Head of the robotics team, I plan and manage training in Embedded Systems, ROS & Raspberry Pi, Hardware, and Computer Vision. I design learning paths with hands-on workshops and projects, mentor members, and oversee technical progress. I also support collaboration, guide project execution, and contribute to strategic decisions and competition readiness to boost the team's overall performance.

AC Member at ASME Team

September 2021 - July 2025

- As an AC member of the ASME team, I teach C++, Arduino, and Arduino OOP, while also contributing to competitions. My role includes guiding technical learning, mentoring members, and collaborating on projects to support the team's success.

Projects

Touchless & 2-wire data/power bus Elevator System – Graduation Project

Designed a smart elevator using PIC microcontrollers with touchless buttons, 2-wire data/power bus, 60V retiring cam via boost converter, and a desktop simulator. Developed tools including a Maintainer Unit (real-time diagnostics), Phase Correction Module (AC safety), and PC-based Sniffer for debugging and system control.

Minesweeper Robot – ROS2 Project

Developed a mine-detecting robot using Raspberry Pi and ROS2 Humble. Integrated a magnetic coil for detection, proximity sensors to identify surface/underground mines, a gripper with limit switches for pickup, and siren/flash with speaker alerts.

Sumo Robot – Competition Project

Built an autonomous Sumo robot using ESP32, 5 ultrasonic sensors, 4 IR sensors, and 2 DC motors. Implemented opponent tracking, edge detection, and real-time control for ring-based competition.

Electronic Lock System – ITI Project

Built a password-protected lock using ATmega32, keypad, LCD, and speaker. Provided voice feedback for user interaction and audio/visual confirmation. Supported password change and system unlocking upon correct input.

Certificates

Embedded System from ITI

August 2024 • ↗

Git & GitHub from Udemy | Eng: Tharwat Samy

April 2024 • ↗

Languages

Arabic - Native

English - Conversational