

# SALAH-ELDIN HASSEN

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## EDUCATION

- Cairo University Faculty of Engineering, Department of Electronics and Electrical Communication Engineering (CUFE EECE).

## WORK EXPERIENCE

- Robotics & Embedded Instructor // Beta Engineering Training Academy // Seasonal // Jan 2023 - Present. Teaching both Arduino and AVR embedded systems, starting as technical support then becoming the main instructor for 600+ students.
- Coding AI Trainer // Outlier // Freelancing // Nov 2024 – Dec 2024. Teaching and optimizing AI models for coding tasks by training, evaluating outputs, and refining models.
- Data Entry Clerk // Covo Connect // Full time // Jun 2023 - Jul 2023. Entering banking data from photos to text, improving touch-typing skills.

## SKILLS

- Embedded: Atmega16/32 (AVR), PIC18F2XK20/4XK20 (PIC), STM32, Fundamentals of Embedded Systems, ARM Cortex-M Architecture, Embedded C, FreeRTOS, SOMEIP
- Software: C / C++, OOP, MATLAB, Assembly, Rust, Data Structures, Algorithms, Python, Automation, Scripting, Kali Nethunter, Ubuntu, Debian, CentOS, AI tools, Qt, Git & Git-Hub, Latex
- Digital: HDL languages (VHDL, Verilog, System Verilog)
- Web: HTML5, CSS3, JavaScript, Bootstrap, jQuery, Laravel, SQL

## PROJECTS

- FreeRTOS-Based Dual Microcontroller Door Locker
  - **Description:** Developed a door security system using two microcontrollers with FreeRTOS, featuring password authentication and I2C EEPROM storage.
  - **Key Elements:** ATmega32, I2C, USART, EEPROM, FreeRTOS
- Concurrent Rust TCP Server
  - **Description:** Multithreaded TCP server in Rust with optimized testing.
  - **Key Elements:** Rust, Multithreading, Protocol Buffers
- SFML Chess Game
  - **Description:** Chess game in C++ using SFML.
  - **Key Elements:** C++, SFML
- Digital Multimeter
  - **Description:** PCB-based multimeter for voltage, current, and resistance.
  - **Key Elements:** ATmega32, PCB, ADC
- Laravel Workshops
  - **Description:** Laravel system for managing workshops.
  - **Key Elements:** Laravel, PHP, MySQL

## COURSES

- Advanced Embedded Diploma
  - **Description:** Diploma covering ARM Cortex-M4 architecture, embedded system development, device drivers, bootloaders, and automotive protocols.
- SOME/IP Workshop
  - **Description:** SOME/IP protocol workshop.
- Digital Design Diploma
  - **Description:** Diploma on digital design and verification.
- Linux Fundamentals
  - **Description:** Course on Linux basics and web server setup.