

SALAH-ELDIN HASSEN

salah1423161@gmail.com – Giza / Egypt - (+20) 1127709232

<https://www.linkedin.com/in/salah-eldin-hassen-5bba10250/> - <https://github.com/salah0eldin>

SUMMARY

Dynamic and adaptable Software Engineer with extensive experience across embedded, digital, and web technologies. Proficient in C/C++ and Python, I excel at leveraging advanced AI tools to transform innovative ideas into robust, production-ready solutions. A fast learner and effective collaborator, I bring a creative, forward-thinking approach to solving complex technical challenges.

EDUCATION

- **Cairo University Faculty of Engineering, Department of Electronics and Electrical Communication Engineering (CUFE EECE) // 2021 - 2026.**
-

WORK EXPERIENCE

- **Robotics & Embedded Instructor // Beta Academy // Seasonal // Jan 2023 - Present.**
 - Promoted from Technical Support to Lead Instructor for Arduino and AVR embedded systems, instructing 600+ students in programming and hardware integration with consistently positive feedback.
 - **Coding AI Trainer // Outlier // Freelancing // Nov 2024 - Dec 2024.**
 - Trained and optimized AI models for coding tasks through iterative evaluation, scenario-based testing, and targeted training frameworks to enhance code generation accuracy and algorithmic proficiency.
 - **Data Entry Clerk // Covo Connect // Full time // Jun 2023 - Jul 2023.**
 - Entering banking data from photos to text, improving touch-typing skills.
-

SKILLS

- **Software:** C / C++ - OOP - MATLAB - Assembly - Rust - Data Structures - Algorithms - Python - Automation - Scripting - Kali Nethunter - Ubuntu - Debian - AI tools - Qt - Git & Git-Hub - Latex.
 - **Embedded:** Atmega16/32 (AVR) - PIC18F2XK20/4XK20 (PIC) - STM32 - ARM Cortex-M - Embedded C - FreeRTOS - I2C - USART - SPI - SOMEIP.
 - **Digital:** HDL languages (VHDL, Verilog, System Verilog).
 - **Web:** HTML5 - CSS3 - JavaScript - Bootstrap - jQuery - Laravel - SQL.
-

PROJECTS

- **Concurrent Rust TCP Server with Test Suite Optimization**
 - **Description:** Developed a multithreaded TCP server in Rust with enhanced client handling and optimized testing.
 - **Key Elements:** Rust, Multithreading, Protocol Buffers, Thread Safety, Non-blocking I/O
 - **SFML Chess Game in C++**
 - **Description:** Built a chess game using C++ and SFML featuring valid move highlighting and an undo option.
 - **Key Elements:** C++, SFML
 - **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
 - **Advanced Digital Multimeter on PCB**
 - **Description:** Developed a PCB-based digital multimeter capable of measuring voltage, current, and resistance with specified ranges.
 - **Key Elements:** ATmega32, PCB, GPIO, LCD, ADC
 - **Laravel Workshops System**
 - **Description:** Developed a Laravel-based system to manage workshop sessions, including scheduling, registration, and attendance tracking.
 - **Key Elements:** Laravel, PHP, MySQL, Bootstrap, Git
-

COURSES

- **SOME/IP Workshop**
 - **Description:** Workshop covering SOME/IP protocol with hands-on client-server communication in networked embedded systems.
- **Advanced Embedded Diploma**
 - **Description:** Diploma covering ARM Cortex-M4 architecture, embedded system development, device drivers, bootloaders, and automotive protocols.

- **Digital Design and Verification Diploma**

- **Description:** Diploma focusing on digital/RTL design, Verilog/SystemVerilog, FPGA design, and verification techniques.

- **Linux Fundamentals**

- **Description:** Course covering Linux basics, file management, shell scripting, process control, and web server setup.
