

SALAH-ELDIN HASSEN

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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 Engineering Training 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 - Fundamentals of Embedded Systems - ARM Cortex-M Architecture - 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 Door Locker**
 - **Description:** Door security system with FreeRTOS and I2C.
 - **Key Elements:** ATmega32, I2C, FreeRTOS
- **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

- **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 and embedded systems.

- **Digital Design Diploma**
 - **Description:** Diploma on digital design and verification.
 - **Linux Fundamentals**
 - **Description:** Course on Linux basics and web server setup.
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