Mohamed Elgazar

Sheikh Zayed, Egypt | melgazar725@gmail.com | 01010815084 | LinkedIn | Github

Objective

Mechatronics engineer with a focus on embedded software engineering and a strong technical background in programming languages such as C, C++, and Python. I am experienced in working with various microcontrollers and know how to interface with them effectively and I am also familiar with mobile development and web development.

Education

Mansoura University, Bachelor of Mechatronics Engineering — Sept 2020 – Sept 2024

- GPA: 3.4/4.0
- **Coursework:** Mechanics, Classic control, Embedded systems , Robotics , Linear algebra , Statistics , Artificial intelligence

Udacity - Egypt FWD, Embedded Systems Professional Nanodegree — Sept 2022 – Dec 2022

- Completed (Certificate)
- **Coursework:** Embedded Systems, AUTOSAR , Automotive , Automotive Communication protocols , Agaile , AVR and ARM microcontrollers

Udemy, Mastering RTOS and Embedded Linux | Mobile App Development with Flutter

Experience

Computer Science Instructor, Roboto Academy – Sheikh Zayed, Egypt — Oct 2024 – Present

- Designed and delivered robotics and computer science curricula
- Taught advanced programming and AI concepts to students
- Fostered a hands-on learning environment with robotics kits and software tools

Embedded Software Engineer Intern, Siemens – Eitesal – Egypt — June 2023 – Jan 2024

- Gained practical experience in microcontroller interfacing and communication protocols.
- Learned AUTOSAR software architecture and MISRA-C standards.
- Developed real-time firmware for ARM and AVR microcontrollers.
- Gained expertise in communication protocols such as SPI,I2C, and UART
- Experience with microcontroller-based systems and Real-Time Operating Systems

.

Projects

Advanced Exploration Robot — Github

- Developed a pipe exploration robot using the Raspberry Pi.
- Using Python to program the Raspberry Pi to collect data from sensors (Camera, Ultrasonic, etc.).
- Tools used: C++ , Python, Raspberry Pi , NodeJs , STM32 MCU , Linux

AVR and ARM Drivers — Github

- Write drivers code for peripherals such as GPIO, GPT , SPI, I2C, and ADC.
- Developed projects using ARM Cortex-M3 based STM32 microcontrollers.
- Tools Used: C, .C++, STM32CubeMX , XC8 , Segger debugger

Technologies

Languages: C++, C, Python, Dart, HTML , CSS, JavaScript , C#

Technologies: Linux , RTOS, VS code , XCode, ARM , AVR , STM32Cube , Flutter , AUTOSAR , Git , Github