ABDELRAHMAN A. MAHMOUD

Nasr City, Cairo, Egypt | +20 1270535270

a.a.mahmoud1170@gmail.com | linkedin.com/in/abdelrahman | github.com/Abdu117

EDUCATION

Helwan University   Cario, Egypt

*BSc. Computer Engineering, Cumulative Grade: **Distinct (88.5%)***   *Sep 2020 - Jul 2025*

- **Coursework**: Data Structures & Algorithms, Database Systems, Discrete Math, Statistics & Probability, Numerical Analysis, Microprocessor & Microcontroller, Software Engineering, VLSI Design & Simulation.
- **Honors**: Ranked 1st out of 113 students in freshman year and 4th out of 1000+ students in the prep year.
- **Leadership & Extracurriculars**: Provided sessions teaching basics C programming language in GDSC Helwan, Collaborated with Launtech community to develop and maintain Embedded Systems projects.

EXPERIENCE

Embedded Systems Intern   Aug 2023

Information Technology Institute (ITI)   *Cairo, Egypt*

- Acquired in-depth knowledge of **ARM** architecture focusing on **ARM Cortex-M3** and **M4**, and successfully leveraged this understanding to design and implement a compelling project.
- Proficiently applied concepts encompassing **Stacking**, **Exceptions**, **NVIC**, **DMA**, and **SysTick** demonstrating a comprehensive understanding of diverse embedded systems components and functionalities.
- Acquired a comprehensive understanding of teamwork dynamics and project integration processes through hands-on tools like **Git extensions**, ensuring efficient version control and collaboration.

PROJECTS

Door Locker Security System | *C Github*   Nov 2022

- Implemented a door locker system based on a layered architecture (MCAL, HAL, App) using AVR(Atmega32).
- Utilized Embedded C to develop synchronous and timeout functions to prevent brute-force attacks and enhance system reliability.
- Main Drivers used: UART, I2C, SPI, EEPROM, Keypad.

SwiftPay | *Java, SQL Github*   May 2023

- Developed a GUI billing system application, backed by MS SQL Server and JDBC API.
- Created customization options, enabling cashiers to generate customer bills and view and edit stock products.
- Integrated interactive charts and graphs to provide users with real-time, visually informative statistics about product sales.

Launtech Website | *HTML/CSS, Javascript, PHP, MySQL Github*   Jul 2022

- Designed a website to facilitate discovering and joining Launtech community.

16-Bit MIPS Processor | *VHDL, Vivado Github*   Dec 2022

- Created MIPS processor using VHDL, implementing pipelined architecture and supporting MIPS base instructions.
- Developed to perform 16 different operations besides 8 different arithmetic operations.
- Integrated the processor with an FPGA board for simulation.

HONORS AND ACCOMPLISHMENTS

National Finalist at NASA Space Apps   Oct 2023

National Finalist at Regeneron International Science and Engineering Fair   Feb 2020

International Finalist at Intel International Science and Engineering Fair (Intel ISEF) May 2019

- Ranked 1st in the Chemical Energy Category and 3rd overall at Intel National Science Fair.
- Qualified for and attended the international fair as Egypt's representative in Phoenix, Arizona, USA.

International Finalist at Nasser Bin Hamad (NBH) Award   Oct 2017

TECHNICAL SKILLS

Languages: C/C++, Embedded C, Python, Java, HTML/CSS, Javascript, SQL, VHDL
Tools: VS Code, Eclipse, MS SQL Server, Git, Linux, Proteus, OOP & Functional Programming, AVR (Atmega32), ARM (STM32f103 & STM32f44re), STM32CubeIDE, Keil, Quartus Prime, FPGA
Technologies: NodeJs, MongoDB, ExpressJs

December 10, 2023