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EDUCATION

Helwan University

Sep 2020 - Jul 2025

BSc. Computer Engineering

Cumulative Grade: Distinct (88.5%)

- Ranked 1st out of 113 students in my freshman year and 4th in the preparatory year.

Coursework Data Structures & Algorithms, Database Systems, Discrete Math, Statistics & Probability, Numerical Analysis, Microprocessor & Microcontroller, Software Engineering, VLSI Design & Simulation.

STEM High School for Boys 6th of October

Sep 2017 - Aug 2020

- Received the STEM Merit Scholarship.
- Ranked 3rd out of 125 students in Grade 11.

TECHNICAL SKILLS

Languages: C/C++, Embedded C, Python, Java, HTML/CSS, JS, 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

PROJECTS

Door Locker Security System | Individual Project, Supervised by Eng. Mohammed Tarek [Github](#) Nov 2022

- Used Atmega32 to implement a door locker system based on a layered architecture (**MCAL, HAL, App**).
- 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 | Group Project, Database Class [Github](#) May 2023

- Implemented a **Java** billing system app, backed by **MS SQL Server**, that empowers cashiers to generate customer bills; Used **Object Oriented Programming** and **UML** diagrams to design and implement.

Launtech Website | Group Project, Student Activity Work [Github](#) Jul 2022

- Created a website using **HTML, CSS, JS, PHP** to facilitate discovering and joining our team.

16-Bit MIPS Processor | Group Project, Computer Architecture Class [Github](#) Dec 2022

- Implemented a processor using **VHDL** to perform 16 different operations besides 8 different arithmetic operations.

EXTRACURRICULAR ACTIVITIES

GDSC Helwan Fall 2022 - Spring 2023

- Provided sessions teaching basics of C programming language and Embedded Systems concepts.

Launtech Helwan Fall 2022 - Present

- Collaborated with a team of developers to create and maintain Embedded Systems projects.

HONORS AND ACCOMPLISHMENTS

National Finalist at NASA Space Apps Oct 2023

National Finalist at Intel ISEF February 2020

Intel ISEF National and International Finalist May 2019

- Ranked 1st in the Chemical Energy Category and 2nd overall at Intel National Science Fair.
- Qualified for and attended the international fair as Egypt's representative in Phoenix, Arizona.

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

November 26, 2023