Saber Mahmoud

Passionate engineering student about digital electronics and embedded systems. Eager to strengthen his knowledge concerning digital electronics. Looking forward to applying his skills practically.

Education

Faculty of Engineering – Cairo University   **(2020-2025)**
Major in Electronics and Electrical Communications   (Very Good)

Courses

SI-Vision Internship (2.5 months, Full-Time):

Completed a full-time internship at SI-Vision, including on-site sessions in a professional working environment. Accessed SI-Vision Academy and company servers, used SpyGlass for linting. Worked on a DMA project with an AXI4 interface under the supervision of a digital team leader and two senior engineers, culminating in a final presentation discussing the project's implementation and outcomes.

Digital Verification Diploma under the supervision of Eng/Kareem Waseem covering:

Fundamentals of System Verilog and System Verilog Assertions, interpreting coverage reports, building constraint blocks, simulating the design on Questa Sim, OOP basics, UVM structure and introduction to formal verification.

Digital Design Diploma under the supervision of Eng/Kareem Waseem covering:

Essential basics of Verilog HDL, Digital design flow, practicing testbench construction, design simulation on Model Sim, FPGA flow using Vivado tool, introduction to STA, metastability and some CDC solving techniques.

Full Embedded Systems Diploma under supervision of Eng/Mohamed Tarek covering:

Basic Concepts of Embedded Systems, C Programming, Data Structures (Linked-List, Stack and Queue), AVR Micro-controllers Interfacing (Implement all the drivers), C For Embedded Applications (Embedded C), Real Time OS(RTOS), Software Engineering, Embedded Tools, HW Labs.

Projects

-Design and verification for a Direct Memory Access (DMA) controller which is a specialized hardware component that allows for efficient data transfers between different memory locations or between a peripheral device and memory without the involvement of the CPU, the design includes priority mechanism and much more. (check my portfolio)

Personal Information

-Mobile: 01119899016

My portfolio: https://sabermahmoud.vercel.app/

-E-mail: saber.mahmoud702@eng-st.cu.edu.eg

-Nationality: Egyptian

-Gender: Male

-Military Status: Postponed

-Date of Birth: 3 March 2002

Technical Skills

-Verilog/System Verilog   -SVA   -UVM
-Model Sim/Questa Sim   -CDC   -STA
-FPGA flow by Vivado tool   -FPGA   -C/C++
-VHDL   -Embedded Systems interfacing   -Proteus
-Visual Studio   -Multisim   -MATLAB

-MS office-JavaScript Fundamentals   -SQLite
-Node.js   -React.js   -Express.js -
Telegram Bot API   -CSS Basics
-Deployment and Hosting   -HTML Basics
-JavaScript Fundamentals

Personal Skills

-Self Motivated   -Active Team Member
-Leadership Skills   -Good Speaker
-Presentation Skills   -Sociable

Languages

-Arabic: Native

-English: Good

-*D*eveloped a complete UVM environment for verifying SPI slave connected with single port Ram.

-*V*erified SPI Slave connected with single port RAM using System Verilog.

-*V*erified FIFO using System Verilog.

-*D*esigned SPI slave connected with single port RAM using Verilog.

-*D*esigned DSP48A1 in Spartan 6 FPGA with some extra logic using Verilog.

-*D*eveloped Stopwatch systems based on Atmega 32 MC.

-*I*mplemented Distance Measuring and Displaying System by Atmega 32 MC.

-*D*eveloped a comprehensive smart car system integrating multiple subsystems, including lighting control, parking assistance.

-*D*eveloped a motor temperature monitoring system using microcontroller-based design, which continuously tracks and monitors the temperature of motors in real-time.

-*D*eveloped a secure door locking system using a microcontroller, featuring password-based authentication for access control.

-*D*eveloped a vehicle control system using a microcontroller to manage various vehicle functions

-*D*esigned and developed my personal portfolio website to showcase my projects, skills, and achievements.

-*D*eveloped a Telegram bot to help me with managing my faculty tables using the **node-telegram-bot-api** library, along with Express for a simple web server, and SQLite for database management. The bot can handle various commands related to schedules, lab sessions, deadlines, exams.

Activities & research

-Participated in the 7th Engineering Mathematics Research Day Forum, this research project was an incredibly rewarding experience, spanning approximately 80 days from initiation to the results presentation. It significantly enhanced my understanding of inverse kinematics, algorithm design, and robotic motion control. The process sharpened my skills in scientific research, mathematical modeling, and practical problem-solving, culminating in a deeper appreciation of kinematics' applications in robotics and automation.

-Participated in the 8th Engineering Mathematics Research Day Forum, veinmatics-our team-project title was "Mathematical Modeling and Diagnosis of Atherosclerosis". Conducted an in-depth study on the causes and diagnosis of atherosclerosis, focusing on mathematical modeling to predict and analyze plaque buildup in arterial walls.