



Hesham El-Sepai

Digital IC Design

About Me

I'm a passionate digital design enthusiast with experience in Verilog, VHDL, and SystemVerilog. I enjoy creating hardware systems like microprocessors, ALUs, digital locks, and communication interfaces, always aiming to turn complex ideas into simple working solutions.

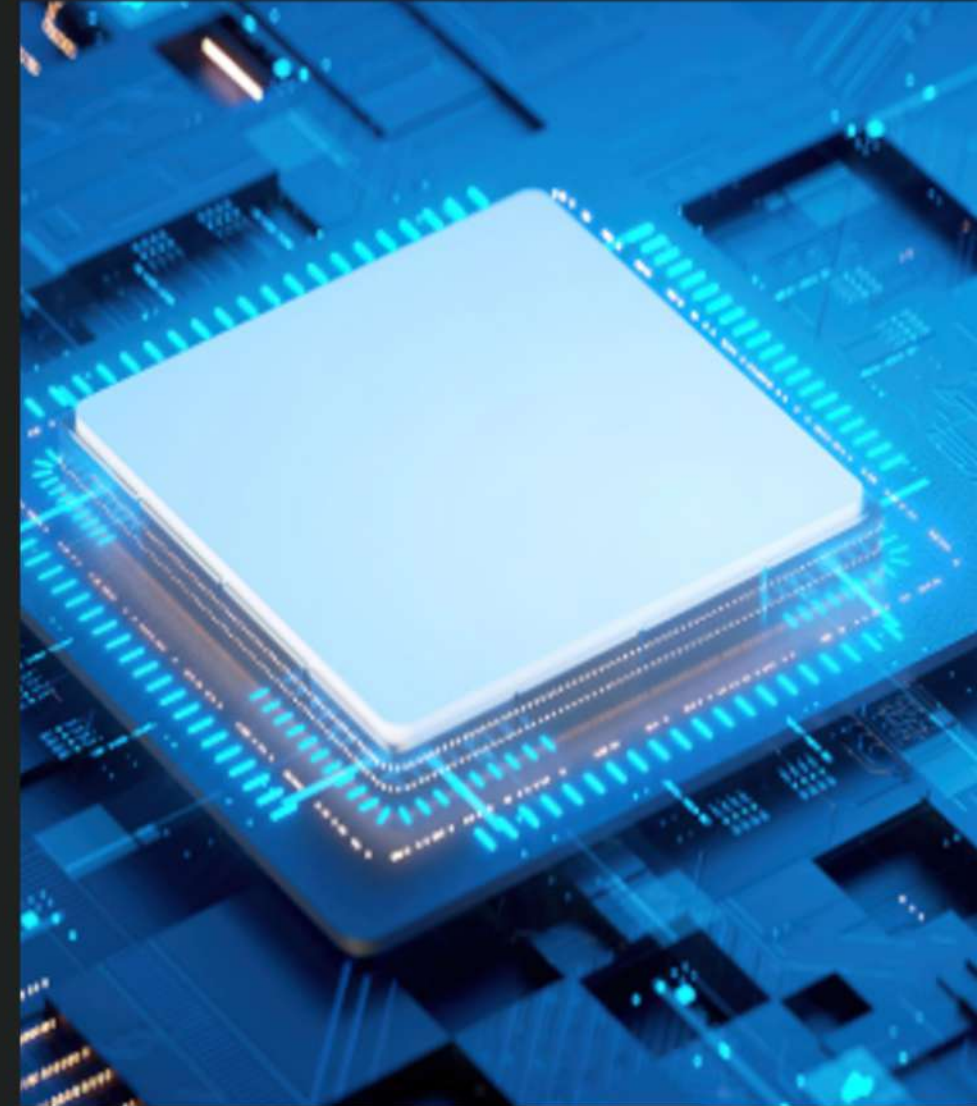
Beyond technical skills, I bring creativity, problem-solving, and a strong drive to learn. Whether it's building hardware or experimenting with web development, I'm motivated by curiosity and a commitment to delivering value.

Why you choose me ?

Because I'm not only passionate about what I do, but I also care about the results. I love learning, experimenting, and pushing my limits to deliver work that makes a difference

Strong background in digital design (Verilog, VHDL, SystemVerilog).

Experience in building hardware projects such as processors, ALUs, and digital systems



Education

Helwan National University

Bachelor, intelligence Systems (Computer & Communication)
Oct2023 - Feb2028

- GPA - 3.43
- Last semester 3.91
- Rank 7th



Skills

- 01.** Programming & Tools: C++, Verilog, VHDL, System Verilog , Java, Html , CSS ,Java Script ,Python ,Google Colab.
- 02.** Interpersonal Skills: Management, Team leader ,Organization Skills, Problem Solving, Communication, Teamwork
- 03.** Languages: English A2, Arabic Native.

Work Experience

ITI

ITI Web development

- Learned the fundamentals of front-end web development. - Worked with HTML, CSS, and JavaScript to create dynamic user interfaces. Optimized model performance.
- Developed hands-on projects including responsive and interactive websites.



Orange

Digital Orange Center Digital Design 1,

- Gained knowledge in fundamental digital concepts, Boolean algebra, and combinational/ sequential logic. - Learned Verilog fundamentals and introductory concepts of FPGA design. - Completed hands-on exercises applying digital design principles.



Work Experience

NTI

NTI Digital Design using FPGA,

- Learned digital circuit design and RTL development using Verilog. - Practiced simulation, debugging (ModelSim), and FPGA prototyping on quartus . - Implemented hands-on projects including an 8-bit Microprocessor and I2C protocol controller.

ITI

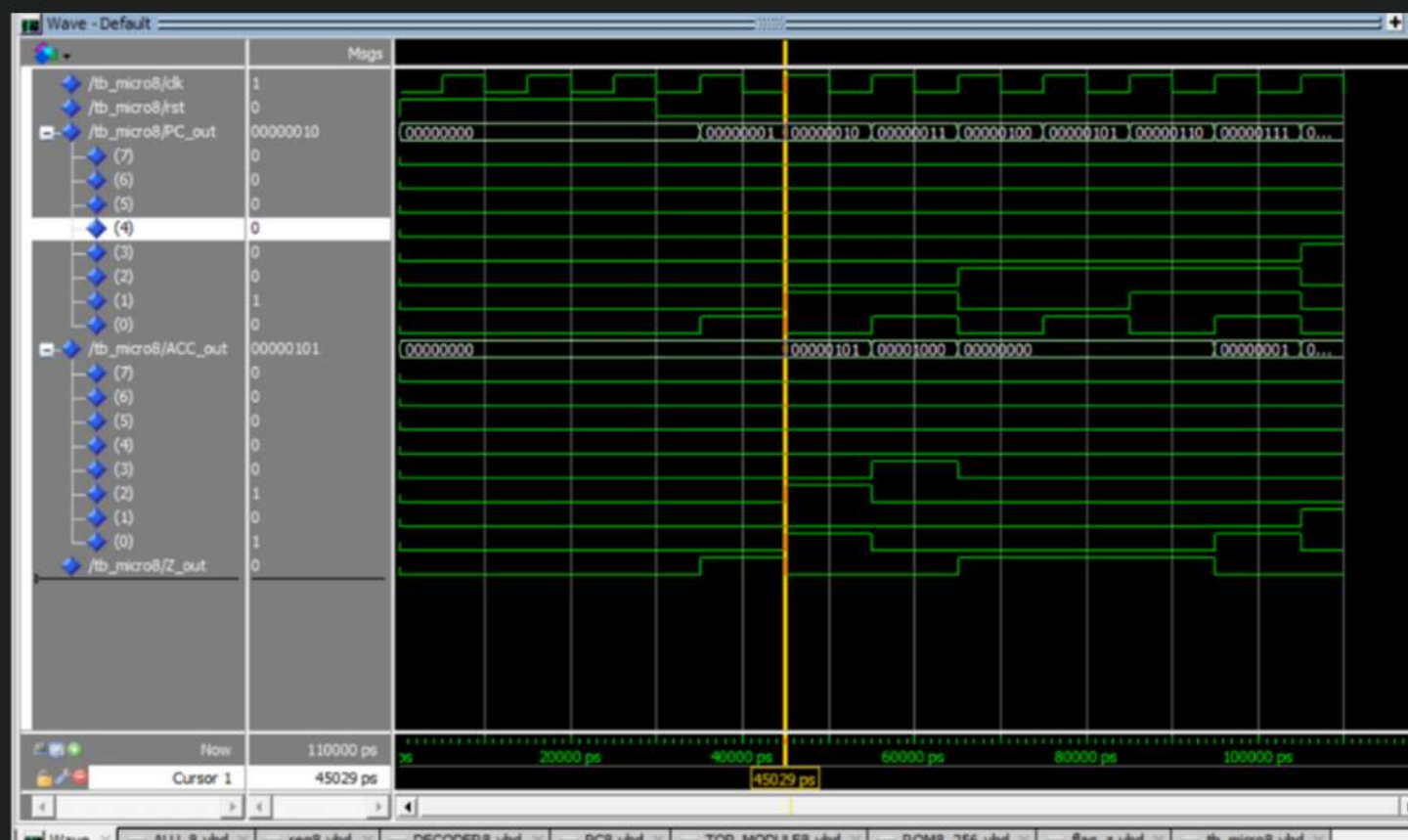
ITI AI & Machine learning,

Gained strong foundation in Artificial Intelligence and Machine Learning concepts. - Applied Python, NumPy, Pandas, and Scikit-learn for data analysis and model development. - Implemented practical projects including classification, regression, and neural network models



8-bit Microprocessor using VHDL

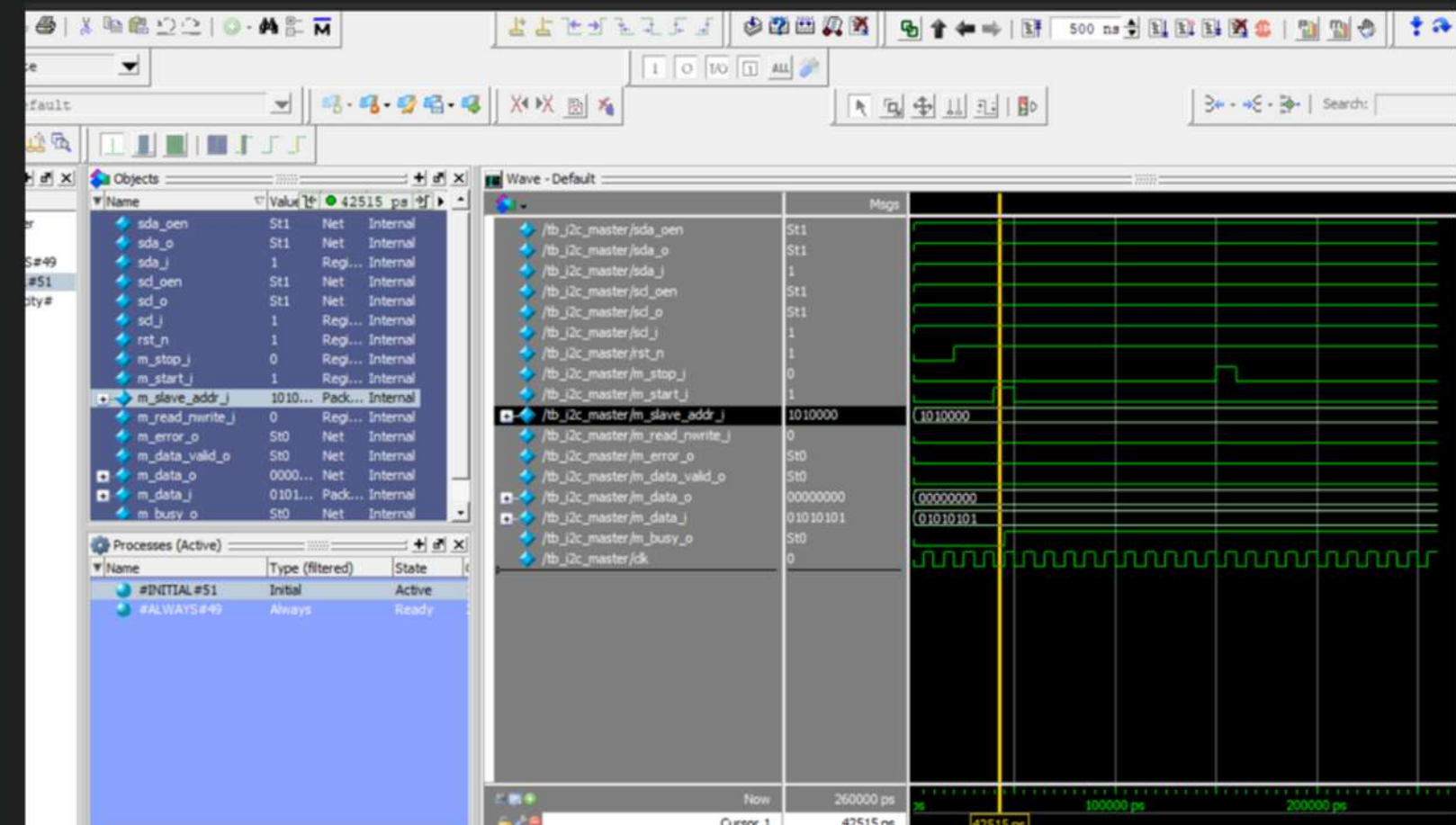
- Designed and implemented a simple 8-bit microprocessor using VHDL.
- Developed key components: ALU, registers, control unit, and memory interface .
- Verified functionality through simulation and testbenches.



Projects

I2c Master using Verilog

- Implemented a basic I2C master controller - Covered core operations: start, stop, data transfer, and acknowledgment.
- Verified functionality through simple simulation test cases.



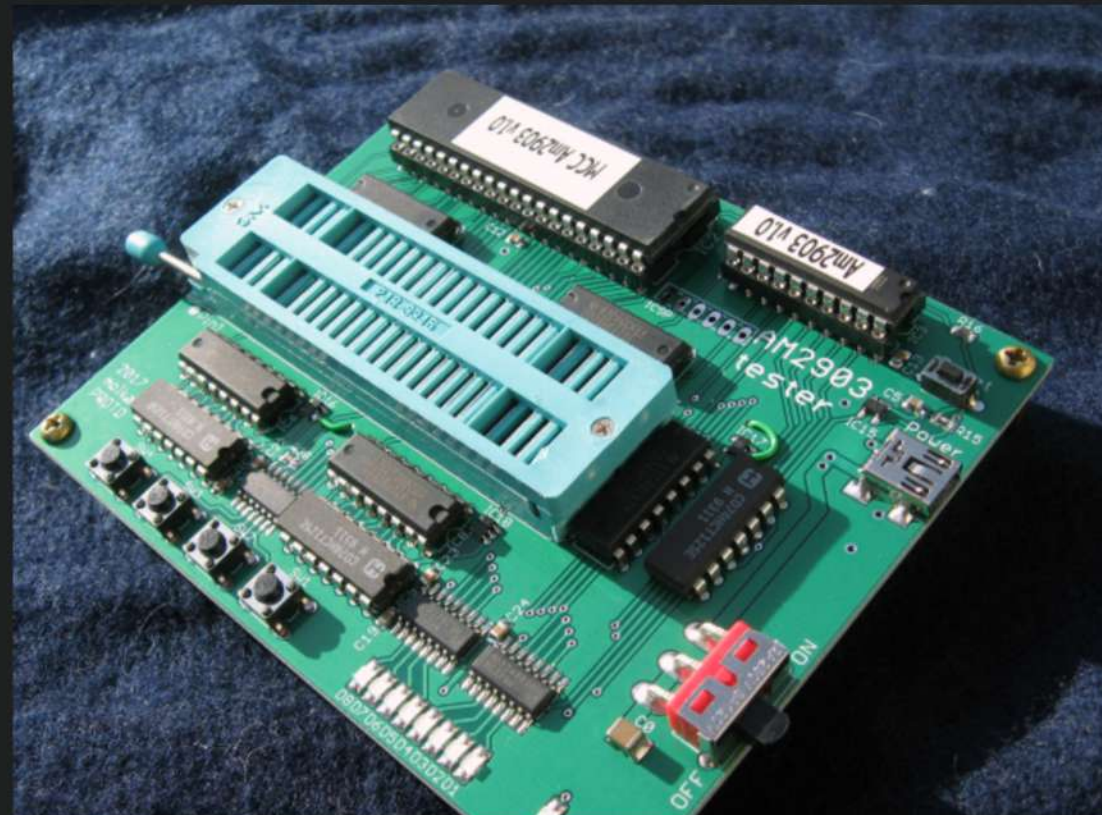
Projects

Digital Lock (Hardware Implementation)

- Designed and implemented a digital lock system as part of a digital design course.
- Built the circuit using basic digital components (flip-flops, logic gates, counters).
- Verified correct functionality through hardware testing and practical demonstration.

Arithmetic Logic Unit (Hardware Implementation)

- Designed and implemented an 8-bit ALU in the Computer Architecture course.
- Built the circuit using basic digital components to perform arithmetic and logic operations
- Tested and verified functionality through hardware prototyping and practical evaluation.



services

Digital Circuit Design

Designing and simulating digital systems using Verilog, VHDL, and SystemVerilog.

FPGA-Based Projects

Implementing processors, ALUs, communication protocols, and custom digital solutions on FPGA

Web Development (Front-End)

Building clean and responsive interfaces using HTML, CSS, and modern front-end tools.

Academic & Project Support

Helping with digital design projects, testbenches, and explaining concepts in a simple way



My Contact



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Cairo, Eygpt

Thank You

