

Mostafa Elsanousi

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Blacksburg VA, 24060

EDUCATION

Virginia Tech Polytechnic Institute and State University

Blacksburg, VA

- **Degree:** Bachelor of Science in Computer Engineering

August 2024 – December 2027

- **Cumulative GPA:** 3.76 / 4.0

- **Objective:** Internship or research opportunity in VLSI circuit design and embedded systems, with particular interest in chip-scale integration, PCB design, and hardware architecture development.

- **Relevant Coursework:** Circuits & Devices, Embedded Systems, Fundamentals of Digital Systems, Computational Engineering, Data Structures & Algorithms, Probability and Statistics for EE

SKILLS

- **Programming:** C, C++, Python, R, Verilog (Structural and Dataflow), MATLAB
- **Tools & Software:** Visual Studio Code, Jupyter Notebook, LTspice, Intel Quartus Prime, Vivado, KiCad, Magic VLSI, Ngspice
- **Hardware:** Arduino, MSP432, STM32, Digilent Basys 3 FPGA

EXPERIENCE

Securis, Inc.,

Chantilly, VA

ITAD Technician Intern

June 2025 – August 2025

- Performed secure data erasure on storage devices using **Blancco Drive Eraser** in compliance with NIST standards.
- Tested and refurbished desktops, laptops, and servers to prepare assets for resale, redeployment, or recycling.
- Conducted hardware diagnostics and performed component upgrades (RAM, HDD/SSD, BIOS resets).
- Assisted in inventory management by tagging and tracking IT assets with barcode systems.
- Supported sustainable IT lifecycle management by routing equipment for reuse or disassembly based on condition.

Magdi Algabani Group

Dubai, UAE

Cybersecurity & Embedded Systems Research Intern

May 2021 – August 2021 & May 2022 – August 2022

- Assisted in the development of a machine learning algorithm to detect phishing attacks, enhancing cybersecurity measures
- Gained hands-on experience in software and hardware engineering, focusing on computer architecture and embedded systems
- Collaborated in teams and participated in the explanation of the complex technical concepts to diverse audiences consisting of the company's business partners

PROJECTS

FPGA-Based Digital Signal Processing System | Personal Project

Independent Developer

May 2025 – August 2025

- Designed and implemented 8-tap FIR low-pass filter on Xilinx Artix-7 FPGA (Basys 3) using Verilog HDL for real-time digital signal filtering with 200 kHz passband frequency
- Developed pipelined filter architecture utilizing DSP slices for coefficient multiplication and accumulation, optimizing hardware resource utilization through symmetric tap pair addition
- Implemented user interface featuring LCD display for sorting information and color-coded LED indicators
- Integrated user control interface with board switches for filter parameter adjustment and 7-segment display for real-time output visualization, validating functionality through simulation and hardware testing
- Achieved real-time signal processing with sub-millisecond latency, demonstrating reliable filter performance in hardware testing