

# Giovani Giagnacovo

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College Station, TX | [LinkedIn](#)

## EDUCATION

**Texas A&M University**, College Station, TX

May 2026

*Bachelor of Science in Electrical Engineering*, GPA: 3.3

Minor in Computer Science, Math

Relevant Coursework: Digital Systems Design, Computer Architecture, Electrical Circuit Theory, Random Signals and Systems, Data Structures and Algorithms, Modern Physics, Physics Electricity & Magnetism

## PROJECTS

### MCU PCB Design

July 2024

- Created custom 3.3V power supply schematic and pcb for use in MCU design using Altium Designer.
- Designed and wired bypass capacitors, 8 MHz and 32 MHz crystals, pin headers, and reset & boot options for ARM-Cortex microcontroller schematic.
- Developed 3D models for each component and efficiently assembled and routed them on the PCB layout.
- Ensured proper capacitor placement for power supply filtering and noise minimization.

### FPGA System Design

June 2024

- Programmed Altera De-10 Lite FPGA in Quartus Prime to test VHDL programs: binary coded decimal display, 4-bit full adder, and BCD adder.
- Developed a mixed signal voltmeter by completing pulse width modulation schematics, simulating the design, and creating a system for the ADC using the Quartus Prime Platform Designer.
- Developed hardware for a system on a chip using the Quartus Prime platform designer to integrate NIOS II soft processor, RAM, flash, ADC, and SDRAM components.

### Single Cycle Processor

May 2024

- Designed the datapath for a 5 stage single cycle processor in Verilog, including the program counter, register file, ALU, and data & instruction memories.
- Developed a control unit for the single-cycle processor to manage the execution of instructions.
- Wrote comprehensive testbenches for each stage of the processor, analyzing waveforms to validate correct functionality.

### Phishnet Combatant

Feb 2024

- Secured 2nd place award at TAMUhack for developing "PhishNet Combatant," a web application designed to detect and combat phishing attacks, utilizing HTML, CSS, and JavaScript to create an intuitive user interface.

## EXPERIENCE

### Texas A&M University

August 2024 - Present

*Undergraduate Research Assistant*

- Analyzed and interpreted waveforms using an oscilloscope to validate signal integrity and troubleshoot issues in custom PCB designs for a computer engineering lab project.

### AI4ALL

August 2023 - December 2023

*College Pathways Participant*

- Utilized Python's pandas and matplotlib libraries as well as different functions to collect, prepare, and analyze datasets, as well as simulate machine learning models in order to understand their functionality.
- Developed an understanding of Artificial Intelligence fundamentals, such as: neural networks, bias, and machine learning models, through completion of comprehensive laboratory assignments.

## SKILLS

**Software:** Altium, ModelSim, LaTeX, Vivado, Quartus Prime, MATLAB, Linux, Fusion 360, Microsoft Office

**Programming:** Verilog, VHDL, C++, SystemVerilog, ARMv8 Assembly, Python, JavaScript, HTML, CSS

**Electronics:** Arduino, Raspberry Pi, Altera FPGA, Soldering, Oscilloscope, Multimeter

## HONORS AND AWARDS

- Dean's Honor Roll (Spring 2023), Microsoft Word & Excel 2016 Certification