David M. Young

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https://www.linkedin.com/in/david-young-27808HI/ | https://github.com/DavidYoungHI/Project_Portfolio

EDUCATION

***Washington University in St. Louis*, MO**   GPA:3.83/4.0
- B.S. in Electrical Engineering   May 2025
- M.S. in Electrical Engineering   Expected graduation May 2026

***Wheaton College,* Wheaton, IL**   Magna Cum Laude, GPA: 3.8/4.0
- B.A. Liberal Arts Engineering, minor in mathematics   May 2025
- Dean's List (Freshman-Junior)

RELEVANT COURSEWORK

Auto. Aerial Vehicle Control Lab (WashU)	RF and Microwave Tech. (WashU; Fall 2025)
Analog IC (WashU; Grad level; Fall 2025)	Control Systems St. Space Design (WashU; Grad Level; Fall 2025)
Semiconductor Devices (WashU; Fall 2025)	Digital IC Design and Arch. (WashU)
Computer Architecture (WashU)	Electronics Laboratory (WashU)

TECHNICAL SKILLS

- MATLAB & Simulink - 4 years of academic experience.
- Hardware Description Language (VHDL & SystemVerilog) - 2 semesters of experience.
- Circuit Simulation Software (PSpice, Cadence) - 4 semesters of experience.
- Proficient use of EE Lab Equipment (O-Scope, DMM, Func-gen, soldering, and signal analyzers) - 4 Semesters.
- Python - Two semesters of experience.
- Bluebeam - Used during A-1 A-lectricians Inc. Internship.
- C++ - A semester of experience.
- Auto CAD, SolidWorks, and Revit - A semester of experience.

EXPERIENCE & Achievements

Passed the Electrical & Computer FE Test (08/06/25): "https://account.ncees.org/rn/2534553-1845445-3e7f3d4"

Teaching Assistant - ESE 232: Intro to Electronic Circuits, WashU, STL, MO   January-May 2025
- Led office hours to guide students through homework challenges and clarify circuit concepts from lectures.
- Evaluated and graded homework and exams, returning them in a week's time.

Summer Intern, *A-1 A-lectricians Incorporated, Honolulu, HI*   June-July 2021, 2022, 2023, 2024
- Used Bluebeam to read electrical plans to highlight the changes in plan revisions.
- Scanned, printed, and archived RFIs and change orders for Project Engineers.
- Worked alongside a senior estimator, learning the job bidding process.
- Interpreted and analyzed electrical, fire alarm, and security system plans to accurately determine conduit measurements, device counts, and one-line diagrams, ensuring compliance with project specifications and industry standards.

PROJECTS

- Digital IC Chip Design for SDES Encryption (Cadence Virtuoso):
  - Designed, laid out, and performed timing analysis of a digital IC chip in Cadence Virtuoso that implements Simplified DES (SDES) to encrypt an 8-bit input using a 10-bit key.
  - Simulated the SDES chip using a 10 MHz clock, verified functionality through transient simulation, and met the 1.5 mm × 1.5 mm layout constraint. The output was produced in around 25 ns.
- Wireless Greenhouse Irrigation System (ESP32 & Raspberry Pi):
  - Developed and implemented a wireless, scalable moisture-sensing and irrigation system for greenhouse applications with GUI groundwork, enabling control for individual plants.
  - Used ESP32 and MQTT for sensor communication and validated the system by maintaining tomato plant moisture at 80% over a one-week test.
- RISC-V Instruction Cache Using SystemVerilog:
  - Designed and coded a direct-mapped cache for a RISC-V processor in SystemVerilog.
  - Verified the functionality of the instruction cache using a testbench.
  - The final result delivered instructions with a period of 100 ps, assuming that instructions from the main memory are returned in one clock cycle.