David M. Young

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EDUCATION

***Washington University in St. Louis*, MO** GPA:3.86/4.0

- B.S. in Electrical Engineering — Expected graduation May 2025
- M.S. in Electrical Engineering — Expected graduation May 2026

***Wheaton College,* Wheaton, IL** GPA: 3.8/4.0

- B.A. Liberal Arts Engineering, minor in mathematics — Degree conferral Expected May 2025
- Dean's List (Freshman-Junior)

RELEVANT COURSEWORK

Digital IC Design and Arch. (Sp 2025 Semester) Computer Architecture (Washu)
Control Systems (Washu) Electronics Laboratory (Washu)

TECHNICAL SKILLS

- MATLAB - 4 years of academic experience
- Hardware Description Language (VHDL & SystemVerilog) - 2 semesters of experience
- Circuit Simulation Software (PSpice) - 3 semesters of experience
- Proficient use of EE Lab Equipment (O-Scope, DMM, Func-gen, and signal analyzers) - 3 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

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

Teaching Assistant - ESE 232: Intro to Electronic Circuits, Washu, STL, MO January-May 2025

- Hosted 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.

PROJECTS

- 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.
- Insulin Controller:
  - Design a controller for an insulin pump using linear analysis, state-feedback, and a state-observer.
  - Achieved a gain margin of 25% and an infinite phase margin, as determined by the Nyquist Stability Criterion. With this design, the blood glucose level returned to the specified baseline value within 15 minutes of a meal, exhibiting minimal overshoot.
- Least-Square Image Classification:
  - Implemented the least-square method in MATLAB to train a model that classified images from the MNIST Dataset of handwritten digits as either zero or non-zero.
  - When we used 5000 images to train our model, our error rate, false positive, and false negative rates were 1.94%, 1.15%, and 9.39%.

ADDITIONAL SKILLS

- Conversational proficiency in Mandarin (beginner to intermediate); basic reading and writing skills.