

EDUCATION

Yale University

B.S. Electrical Engineering (ABET), GPA: 3.90

- Relevant coursework: Intro to VLSI System Design, Circuits and Systems Design, Electrochemical Energy Storage Devices, Intro to Comms and Control, Mechatronics Lab.

August 2024 – 2028

New Haven, CT

WORK EXPERIENCE

Yale School of Engineering and Applied Science

Senior Laboratory Support Technician

- Proficient in oscilloscopes, function generators, power supplies, multimeters, network analyzers, PCB CNCs, pick-and-place machines, and reflow ovens.
- Designed a custom 8051 development board for use in labs by 26+ person class.
- Research and development for EE classes, creating documentation, cleaning and organizing EE labs.

January 2025 – Now

New Haven, CT

Yale Center for Engineering Innovation and Design

Studio Assistant

- Teach students how to use 3D printers, laser cutters, power tools, soldering stations, sewing machines.
- Assist students and faculty with electronics design, PCB assembly, testing, machining parts out of metal, wood, plastic.
- Maintain and organize the makerspace used by 3500+ students and faculty.

August 2025 – Now

New Haven, CT

Bulldogs Racing – Formula SAE Electric

Chief Engineer & Electrical Lead

- Lead 25-person electrical and software team within a 100+ person racing club.
- Designed and assembled 10+ custom PCBs, including a 12V to 9V/5V/3.3V buck converter, 370V precharge and discharge circuit, CAN bus communication modules for telemetry, a battery monitoring system for temperature and cell-voltage measurement of a 370V Li-ion pack.
- Designed and built the low-voltage systems of the car, rebuilt the high-voltage system.
- Taught and mentored students in PCB design using KiCad, and guided them through verification, testing, and manufacturing of their boards.

September 2024 – Now

New Haven, CT

PROJECTS

Pchelichka – Autonomous Drone Pollinator

- Designed and built a novel autonomous drone (bee) capable of contact pollination. Features a custom flight controller, ARTags, and a three-level cascade PID for indoor navigation. Uses AI to monitor plant health and detect signs of disease or stress.
- Received EU *Competitiveness and Innovation in Enterprises* Grant and accepted into Bulgaria's leading robotics incubator PARAi.

SHARO – Quadruped Robot

- Designed and built a custom 3D-printed quadruped robot for wildfire detection in wooded terrain.
- Novel leg design for in-body servos to enable greater stability and freedom of motion.
- Winner of Vienna International Science & Engineering Fair (80+ participants from 12+ countries).

Simplified 6502 Processor (ongoing)

- Designed a simplified version of the MOS 6502 8-bit microprocessor (powered the Apple II and NES) from scratch with only a subset of its instructions. Simulated the outputs using Xyce.

FIRST Robotics Competition (FRC)

- Founded and captained the first-ever Bulgarian FRC team, leading 40+ students to compete in Turkey.
- Designed the entire 125-lb robot, including a motorized arm, intake system, shooter, and climbing mechanism.

SOFTWARE & SKILLS

- **Software:** KiCad, NI Multisim, Onshape, Fusion 360, Arduino, C/C++, Matlab, Assembly, Magic VLSI, Xyce, STM32CubeIDE
- **Skills:** PCB design, CMOS design, 3D modeling, SMD soldering, machining, MIG welding, 3D printing, laser cutting