

# Peter Duncanson

## EDUCATION

**Rensselaer Polytechnic Institute** B.S., *Electrical Engineering*

September 2025 - May 2027

**Connecticut State Community College Housatonic**, A.S., *Engineering Science*

*Summa cum laude*

September 2021 - May 2025

## PROJECTS

### Analog Synthesizer

- Engineered a portable, breadboard-based analog synthesizer, optimizing circuit design and component selection to operate reliably from two 9V batteries.
- Simulated circuit behavior and optimized component selection utilizing LTSpice prior to physical assembly.
- Designed and integrated two modifiable filter banks that toggle state via hardware sensors, enabling real-time control over analog signal processing.

### Morse Code Terminal

- Developed a keyboard-driven, console-style GUI using Python and Tkinter, allowing users to navigate a complex directory menu exclusively through Morse code inputs.
- Wrote a Python script to scrape and process over 10,000 words from the RPI subreddit, utilizing the Gemini API to categorize the data by sentiment and topic.
- Prototyped an Arduino-based hardware input interface designed to translate physical switch closures into digital signals for the terminal.

## EXPERIENCE

### CT State Housatonic, Bridgeport, CT — Supplemental Instruction Leader

September 2024 - May 2025

- Facilitated bi-weekly peer-led study sessions for students enrolled in Calculus-Based Physics and Calculus, improving understanding of complex concepts.

### Housatonic STEM Tutoring Center, Bridgeport, CT — Student Tutor

September 2022 - May 2025

- Provided one-on-one and group tutoring in math and science, helping students improve comprehension and academic performance.

### Hubbell Electric Heater Company, Stratford, CT — Wiring Technician

April 2021 - May 2022

- Performed electrical wiring and connections for electric water heaters according to technical drawings.
- Installed, inspected, and tested electrical components, including thermostats, heating elements, and control panels.

### Marathon Finishing Systems, Temecula, CA — Shop Technician

May 2020 - March 2021

- Assembled Spray Paint Booths; assembly of sheet metal parts, single phase motor, 3 phase motor, and VFD wiring.

### United States Marine Corps — Lance Corporal

May 2016 - May 2020

- Designed and built fuel dispensing and receiving systems according to schematics and terrain.
- Performed preventative maintenance on equipment, disassembly and reconstruction of valves and small engines.

## ACTIVITIES

### Rensselaer Electric Vehicle

A student-run club dedicated to building 100% electric vehicles. These vehicles compete in races like Shell Eco-Marathon, where they are evaluated for efficiency and design as opposed to pure speed.

### Ski Club

## HONORS

### Epsilon Pi Tau

An international honor society for technology students, professionals, and educators.

### Phi Theta Kappa

An international honor society for students at two-year colleges.

Troy, NY

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## SKILLS

Python

C

VHDL

HTML/CSS

LTSpice

Git

Linux

VM

Mentorship & Tutoring

Electronics

## AWARDS

Paul Doane Memorial Award

Outstanding Achievement in Supplemental Instruction Leadership Award

Outstanding STEM Student Tutor Award

National Defense Service Medal

Sea Service Deployment Ribbon

Global War on Terror Service Medal

Navy and Marine Corps Meritorious Unit Commendation Ribbon