Leo Marek

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Personal Profile

Rice University student studying computer science and electrical and computer engineering. Passionate about software engineering, computational modeling, deep learning, data science, embedded systems, and the intersection between hardware and software design. Track record of leading engineering teams of 20-40 people on small and large scale projects. Experienced sailing coach, outdoors lover, skier, collegiate sailor, backpacker, and mountain biker.

Education

Rice University — *Houston, TX*

Bachelors of Science in Electrical and Computer Engineering, BA in Computer Science - 3.85/4.0 — *May 2026*

- **FIRST at Rice President:** run 120+ student FIRST alumni outreach organization spreading STEAM education among underserved schools in East Texas
- **IEEE Representative:** plan IEEE socials and corporate recruiting lunches, coordinate with regional conference
- **Rice CS Club:** HackRice, Coursework Support
- **Rice Data Science:** Data Science Bootcamp, Rice Datathon
- **Courses:** Algorithmic Thinking, Signals and Systems, Digital Logic Design, Discrete Math, Semiconductor Design, Computer Engineering, Honors Linear Algebra, Multivariable Calculus

Experience

Rice Electric Vehicle — *Houston, TX*

Electrical Team Lead — *Feb 2023 - Present*

- Train, support, and manage 20-person electrical team
- Oversee design, fabrication, and debugging of custom electronics to compete in the Shell Eco Marathon

Rice Computer Science Department — *Houston, TX*

Teaching Assistant — *Jul 2023 - Present*

- Assist computational thinking instruction for 300+ first-year CS students
- Teach Python, Graphs, Matrix Operations, Linear Regression, Model Fitting, Error Correction, and Markov Chains

Oshman Engineering Design Kitchen — *Houston, TX*

Laboratory Assistant — *Jul 2023 - Present*

- Instruct machine and tool usage. Helped assist over 40 Design Project Teams working for clients from Hospitals to the Defense Department
- Know lab equipment including 3D printers, laser cutters, waterjet cutter, plasma cutter, electrical instrumentation, and CNC machines

Alloy Technologies — *San Francisco, CA*

Intern — *Mar 2020 - Apr 2020*

- Produced marketing video content (4000+ impressions) and helped coordinate national conference presentations to demonstrate benefits of smart supply chain analytics
- Effectively communicated with executive leadership to maintain workflow during onset of the pandemic

Expertise

Skills	Software Development, System Design, Data Engineering, Technical Writing, Machine Learning, Electronics, Object-Oriented Programming, Leadership
Technologies	Java, Python, Verilog, C, R, Microcontrollers, Pytorch, Git, Excel, C++, Matlab, LaTex, HTML, CSS, Linux
Certifications	US Sailing Small Boat Instructor, International Offshore Safety at Sea, Red Cross First Aid/CPR/AED

Selected Projects

FPGA Implementation of RISC Processor — *Houston, TX*

ELEC 326 - Digital Logic Design — *Sep - Dec 2023*

- Executed in Verilog, simulated processor design using Icarus Verilog on central Linux cluster
- Implemented on Spartan 7 FPGA using Xilinx Vivado, wrote custom assembly language programs for testing

Low-Cost Negative Pressure Wound Therapy — *San Jose, Costa Rica*

Rice University Global Medical Innovation — *May - June 2023*

- Conducted clinical needs finding observations at 5 hospitals in San Jose. Translated input from patients and physicians to concrete ideas
- Designed, built, and open-sourced a low-cost negative pressure wound therapy device for use in developing countries
- Created embedded electrical system centered around ESP32 microcontroller. Wrote control systems and UI from scratch in C++

Find my other projects at leomarek.github.io