

Leo Marek

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Rice University student 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 4-40 people on small and large scale projects. Sailing coach, outdoors lover, skier, backpacker, and mountain biker.

Education

Rice University

Houston, TX

Bachelors of Science in Electrical and Computer Engineering, BA in Computer Science - 3.87/4.0

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 Sailing Captain:** Coordinate team activities including practice, classroom training, and 10 weekends of competition travel annually
- **Rice CS Club:** HackRice, Coursework Support
- **Rice Data Science:** Data Science Bootcamp, Rice Datathon
- **Courses:** Machine Learning, Algorithmic Thinking, Parallel Programming, Computer Systems, Signals and Systems, Digital Logic Design, Discrete Math, Honors Linear Algebra, Multivariable Calculus

Experience

Oshman Engineering Design Kitchen

Houston, TX

Laboratory Assistant

Jul 2023 - Present

- Develop software using AWS SQS and Lambda to interface with multiple APIs, save over 8 hours of manual data entry weekly, and manage makerspace tool access for over 1300 students
- Instruct machine and tool usage, assisted over 40 Design Project Teams working for clients from Hospitals to the Defense Department
- Know equipment including 3D printers, laser cutters, waterjet cutter, plasma cutter, electrical instrumentation, and CNC machines

Rice Electric Vehicle

Houston, TX

Electrical Team Lead

Feb 2023 - Present

- Train, support, and manage 10-person electrical team to develop mission critical custom circuit boards with embedded control systems
- Oversee integration of electronics and ensure team is prepared to compete in the Shell Eco Marathon

Alloy Technologies

San Francisco, CA

Communications 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
- Communicated with executive leadership to maintain workflow when supply chains were struggling during onset of the pandemic

Expertise

Skills

Software Development, Data Engineering, Machine Learning, System Design, Electronics, Technical Writing, Leadership

Technologies

Java, Python, Pytorch, Linux C++, Microcontrollers, C, Verilog, Git, R, Matlab, LaTeX, HTML, CSS

Certifications

US Sailing Small Boat Instructor, International Offshore Safety at Sea, Red Cross First Aid/CPR/AED

Selected Projects

ML Frequency Analysis of Sleep Stage Data

Rice Datathon 2024

Jan 2024

- Classify sleep stages with 80+% accuracy
- Used convolutional neural network, fully connected neural network, and gradient boosted trees
- Proved correlation between income and sleep quality - won Best Social Impact Project out of 59 teams

FPGA Implementation of RISC Processor

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++