# Leo Marek

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## EDUCATION

**Rice University**, *BS in Electrical and Computer Engineering, BA in Computer Science* | Houston, TX
GPA: 3.87 / 4.0

May 2026

- **Rice Engineering Alumni Leadership Excellence Award:** Selected as one of ten Rice Engineering undergraduates from a pool of over 1,600 for outstanding leadership on campus and beyond
- **FIRST at Rice President:** Run 100+ student FIRST alumni outreach spreading STEAM education among under-served schools
- **Rice Sailing (Captain):** Compete against varsity programs at the highest level of college sailing - weekly practice, classroom training, and 10+ weekends of competition travel annually
- **IEEE Vice President:** plan IEEE socials and corporate recruiting lunches, connect with IEEE organizations in industry and academia
- **Teaching Assistant** Instructed Python, data structures and algorithms, and signal processing to 400+ students in CS and ECE courses.

**Courses:** Algorithmic Thinking (Data Structures and Algorithms), Advanced VLSI Design, Computer Architecture, Digital Logic, Computer Systems, Machine Learning, Parallel Programming, Signals and Systems, Random Signals

## EXPERIENCE

**Rice ECE** | Houston, TX                                                                                                    Aug 2024 - Present
- Working on RISC V vector computing simulation

**Team Engine,** *Engineering Intern* | Remote (California, USA)                                               May 2024 - Aug 2024
- Developed employee profile images throughout the application and implemented machine learning models and tools to transform survey data into actionable insights
- Designed and built scalable features using TypeScript (React, Node), large language models, machine learning APIs, AWS, MySQL, Python, and Docker, collaborating with senior engineers to review design decisions
- Delivered multiple features critical to several large sales, used daily by over 850 employers, impacting 200,000 employees

**Oshman Engineering Design Kitchen,** *Laboratory Assistant* | Houston, TX                            Jul 2023 - Present
- Implemented 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
- Instructed machine usage, assisted over 60 Design Project Teams working for clients from Hospitals to the Department of Defense
- Maintained, repaired, and upgraded over 30 machines used for courses, projects, and research

**Alloy Technologies,** *Communications Intern* | San Francisco, CA                                          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

## SKILLS

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|---|---|
| Competencies | Leadership, Software Development, Computer Architecture, Machine Learning, Embedded Systems, Data Engineering, System Design, Electronics, Technical Writing, Project Management |
| Technologies | Python, C/C++, Verilog, CUDA, Java, SQL, Typescript, HTML, CSS, CMake, Matlab, Git, Bash, LaTeX |
| Software | Linux, Tensorflow, Pytorch, Numpy, Keras, Pandas, Scikit-learn, React, NodeJS, Xilinx Vivado, Simulink, LtSpice, Autodesk EAGLE, VMware, AWS, Google Cloud, Docker, Kubernetes |

## SELECTED PROJECTS

**ML Frequency Analysis of Sleep Stage Data**                                                                       Rice Datathon
- Classified sleep stages with 80+% accuracy, the highest of all 9 teams in the neurotech track
- Used Python to train 3 different models: a 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 - Logic Design
- Executed in Verilog, simulated processor design using Icarus Verilog on central Linux cluster
- Deployed on Spartan 7 FPGA using Xilinx Vivado, wrote custom assembly language programs for testing

**Low-Cost Negative Pressure Wound Therapy**                                                                 Rice Bioengineering
- Conducted needs assessment at five hospitals in Costa Rica, translating observations from patients and physicians into viable ideas
- Navigated prototyping process with a team of four despite highly limited vendors, tooling, documentation, and resources
- Designed, built, and open-sourced a low-cost negative pressure wound therapy device for use in developing countries
- Constructed embedded electrical system using ESP32 microcontroller - wrote control systems and UI from scratch in C++