

MARTÍN RODRIGUEZ

Recent Graduate with an M.Sc. in Electrical and Computer Engineering

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EDUCATION

M.Sc. in Electrical and Computer Engineering, Portland State University 2024
Signal Processing and Machine Learning, GPA: 3.40

Thesis: *Applying Positive Unlabeled Learning Techniques and Using the Kullback-Leibler Divergence to Improve Geothermal Surveying Assessments*

B.Sc. in Electrical and Computer Engineering, Portland State University 2019
Embedded Systems, GPA: 3.13

TECHNICAL SKILLS

Programming: Python, NumPy, scikit-learn, PyTorch, TensorFlow, Matplotlib, librosa, OpenCV, MATLAB, C/C++, Julia, Swift, SwiftUI, bash, ARM/MIPS Assembly, \LaTeX

Software: LTSpice, Emacs, XCode, Ableton Live, TouchDesigner, Git, Jira

General: Writing, Research, Signal Processing, Machine Learning, Statistical Analysis, Positive Unlabeled Learning, Bayesian Methods, Conformal Prediction, Embedded Systems, High Performance Computing, Sound Design, General Hacking

ENGINEERING/TECH EXPERIENCE

Quality Assurance (QA) Lead, Plus QA, Portland, OR Jan. 2021–Mar. 2022

- Worked with clients to develop comprehensive testing strategies and provide assistance to existing QA teams
- Led QA team for mobile marketing campaign that successfully reached millions of users

QA Tester, Plus QA, Portland, OR Jun. 2018–Dec. 2019

- Performed QA testing for mobile and web apps on a variety of platforms

Electrical Engineering Intern, Multiple Engineering Cooperative Program (MECOP) Mar.–Dec. 2017
Lam Research, Tualatin, OR

- Studied methods of manufacturing and characterizing carbon probes for an atomic force microscope (AFM) via electron beam-induced deposition (EBID) with a focused ion beam scanning electron microscope (FIB-SEM), pointing to the possibility of improved tool sensitivity and efficiency
- Presented results at a company poster session
- Received the Lam Research Core Values Scholarship during my internship

Undergraduate Researcher, Research Experience for Undergraduates (REU) Jun. – Sep. 2016
teuscher.:Lab, Portland, OR

- Optimized neural network (reservoir computation) techniques in Python and MATLAB, increasing accuracy and reducing simulation runtime
- Presented results at REU presentation session

Summer Intern, Oregon Space Grant Jun. – Aug. 2011
NASA Goddard Space Flight Center, Greenbelt, MD

- Designed orbit simulations in MATLAB, aiding in the nascent stages of the CubeSat (modular satellite systems for use in education) program

POSTER PRESENTATIONS

Rodriguez, M., Lipor, J.J., Mordensky, S.P., Burns, E.R., DeAngelo, J., 2024, *The Advantages of the Kullback-Leibler Divergence as an Evaluation Metric for Geothermal Favorability Prediction with Machine Learning*. Geothermal Rising Conference, Waikoloa, HI, 27–30 October 2024.

PROJECTS

Real-Time Tempo Detection with Harmonic-Percussive Source Separation via Median Filtering 2022
EE 522: Discrete Time Processing Final Project, Portland State University

Image Sorting and Sequencing using Canny Edge Detection and Hough Transforms 2022
EE 513: Intro to Image Processing Final Project, Portland State University

Early Detection of Forest Fires with Environmental Sensors, Computer Vision, and Deep Learning Techniques in Python and TensorFlow 2019
Capstone Project, Portland State University/Intel