EMILIA PSACHAROPOULOS

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EDUCATION

University of Michigan, Ann Arbor, MI Sept 2019 – Apr 2023

- Bachelor of Science in Engineering in Computer Engineering
- Minor in Mathematics
- Overall GPA: 3.65/4.00
- Dean's Honor List and University Honors
- Relevant Coursework:
  Introduction to Embedded System Design, Data Structures and Algorithms, Digital Signal Processing and Analysis, Introduction to Logic Design

WORK EXPERIENCE

Engineering Technician Intern May 2022 – Aug 2022

Analog Devices, Inc. (ADI), Greensboro, NC

- Automated ADI's Aerospace and Defense radio frequency characterization data-taking process.
- Created LabVIEW GUIs to calibrate spectrum analyzer and measure two-tone intermodulation via GPIB.
- Accelerated team productivity by designing advanced algorithms in MATLAB to extract and synthesize over 3500 raw Excel files into key spreadsheets and 600 specific plots for senior engineering design team.
- Programmed specialized data parser in MATLAB to produce statistic tables of desired registers after testing.
- Documented in-depth tutorials to accompany tools developed and outline automatic data processing workflow.

Robotics Research Engineering Intern May 2021 – Dec 2021

Robotics Institute, University of Michigan, Ann Arbor, MI

- Collaborated on an interdisciplinary team of graduates and undergraduates to contribute to Open Dynamic Robot Initiative (ODRI) by implementing and revising an open-source quadruped robot.
- Enhanced ODRI's technical documentation with statistical cost analysis, wiring schematics, circuit assembly tutorials, and original bill of materials on GitHub markdown files to inform progress to other researchers.
- Led system redesign of electrical components, circuitry, computing, communication, and motor control.
- Quadrupled ODRI design's communication and motor control bandwidth while reducing cost by 91.02% by replacing ODRI's highly specialized PCBs with generic control platforms.
- Summarized mechanical and electrical redesigns in research paper supported by statistical cost analysis.
- Presented process and results at Summer Undergraduate Research in Engineering (SURE) symposium.

Seven Mile Music Director Sept 2019 – Present

University of Michigan, Ann Arbor, MI

- Coordinate community center scheduling and financing to club executive board as Music Director.
- Manage Seven Mile's music program and volunteer tutors to provide free access to music education for all.
- Serve weekly as a guitar teacher to a class of underprivileged elementary students in Detroit.

SELECT CLASS PROJECTS

Embedded Control Systems Laboratory Experience Jan 2022 – April 2022

- Developed haptic interface embedded controller utilizing microprocessors, C, SPI protocol, and NXP software.
- Analyzed and interpreted subsystem oscilloscope waveform responses from sensor inputs for debugging.
- Designed logic, controllers, and dynamics in Simulink to model complex systems of differential equations.
- Verified autonomous Adaptive Cruise Control capabilities using Simulink's automatic C code generation.

Digital Signal Processing Team Project Jan 2022 – April 2022

- Created Optical Character Recognition signal processing algorithm to convert handwriting to formatted text.
- Built Character Classification machine learning subsystem with Sklearn and PyTorch libraries in Python.
- Oversaw management of team website, GitHub, text-to-LaTeX conversion in MATLAB, and scheduling.

TECHNICAL SKILLS

Laboratory: Circuit datasheets, logic analyzer, oscilloscope, signal generator, spectrum analyzer, test scripts
Technology: Git, GUI, LabVIEW, LTspice, Make, Microsoft Suite, STM32CubeIDE, WaveForms
Programming: ARM, Assembly, Bash, C/C++, HTML, MATLAB, Python, Simulink, Stateflow, Verilog VHD