

Manny Lazalde

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EDUCATION

Carnegie Mellon University

Master of Science in Mechanical Engineering

Selected Coursework: Optimization, Machine Learning, Deep Learning

Pittsburgh, PA

May 2021

University of California, Berkeley

Bachelor of Science in Mechanical Engineering

Minor in Electrical Engineering and Computer Science

Berkeley, CA

December 2019

SKILLS

Software: Python, MATLAB/Simulink, SolidWorks, Ansys, LabVIEW, Arduino, ROS, Linux, C++, SQL, Power BI, INCA

Python Libraries: Numpy, SciPy, Pandas, Scikit-Learn, Keras, TensorFlow, PyTorch

Hardware: Oscilloscope/Signal Generator/DAQ experience, 3D Printing, Laser cutting, UC Berkeley Machine Shop Trained

WORK EXPERIENCE

General Motors

Milford, MI

NextGen Controls Design Engineer - Vehicle Motion Embedded Controls

August 2022 - Present

- Developing advanced controls algorithms for vehicle braking systems involving machine learning and Simulink

Data Analyst - Vehicle Motion Embedded Controls

February 2022 - July 2022

- Automated and expanded existing Agile Data Analytics dashboards through new SQL queries and Power BI updates
- Performed exploratory investigation into Power BI timeline capabilities, culminating in use of novel technology for visualization of vehicle program timelines.

System Safety Engineer - Engine Controls

June 2021 - February 2022

- Created system-based model for MY24 BEV Driver Arbitration System within Ansys Medini to modernize and replace existing document-based safety case
- Supported validation activities for engine controllers involving testing, updating tools, and hosting design reviews

Lam Research

Fremont, CA - Remote

Hardware Engineering Intern

April 2020 - August 2020

- Validated hardware design changes in semiconductor deposition equipment using Python and statistical testing, leading to customer hardware changes allowing for more efficient manufacturing processes
- Implemented flexible feature extraction pipeline and machine learning models to classify pneumatic valve events and predict valve response times from sensors, proving feasibility for adoption on new platform

General Motors

Milford, MI

Engineering Intern - Diesel Engine Calibration

June 2019 - August 2019

- Performed CARB regulated J1699 and J1979 testing, fixing software issues to avoid vehicle recalls
- Created engine diagnostic form verification tool with Python, moving monthly 30-hour process to 15 minutes

ACADEMIC RESEARCH AND PROJECTS

Carnegie Mellon University

Pittsburgh, PA

Deep Learning Final Project

February 2021 – May 2021

- Created custom LSTM and CNN in PyTorch to predict walking gait kinematics and kinetics from IMU's. Merged with Optimal Control model in MATLAB to create more accurate regression model for the time series data

Gu Research Group

Berkeley, CA

Undergraduate Researcher

August 2018 - December 2019

- Modeled shark skin denticles in SolidWorks and optimized denticle geometry with Ansys Fluent CFD simulations to reduce drag on future biomimetic-based systems; J Ott, M Lazalde, GX Gu, Bioinspiration and Biomimetics (2019)

EXTRACURRICULAR ACTIVITIES

GM TRACK Diversity, Equity, & Inclusion Board – Team Co-Lead

June 2021 - Present

- Spearheaded team of 10 to create company-wide DEI cookbook and received recognition from C Suite Executives
- Leading team of 30 to create DEI events and initiatives for 700+ engineers in GM early career rotational program

GM TRACK VMEC Functional Contact

July 2022 - Present

- Hosting and organizing professional development and networking events for 50+ engineers within organization

GM Carnegie Mellon Recruitment Team

July 2022 - Present

- Led GM recruiting efforts for CMU SHPE and NSBE chapters, including recruitment at campus club career fair