Manny Lazalde

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EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Master of Science in Mechanical Engineering — May 2021
Selected Coursework: Optimization, Machine Learning, Deep Learning

University of California, Berkeley — Berkeley, CA
Bachelor of Science in Mechanical Engineering — December 2019
Minor in Electrical Engineering and Computer Science

SKILLS

Software: Python, MATLAB/Simulink, SolidWorks, Ansys, LabVIEW, Arduino, ROS, Linux, 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

Complex Features Assistant Program Engineering Manager – BEV3 Programs — February 2023 - Present
- Supporting advanced technology projects across the EV portfolio to ensure proper deployment

NextGen Controls Design Engineer - Vehicle Motion Embedded Controls — August 2022 - February 2023
- Developed advanced brake control algorithms to classify road surface using machine learning methods, increasing accuracy from 56% to 95%. Assembled team, defined scope, collected vehicle test data in Inca, and performed machine learning optimization and feature selection in Python with SciKit-Learn library

Data Analyst - Vehicle Motion Embedded Controls — February 2022 - July 2022
- Automated and expanded Scaled Agile Framework analytics dashboards with 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 Torque 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

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 – January 2023
- Organized 10+ professional development and networking events for 50+ engineers within organization

GM Carnegie Mellon Recruitment Team — July 2022 - Present
- Led recruiting efforts for CMU SHPE and NSBE, involving on-campus club career fairs with vehicles from GM