Manny Lazalde

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EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Master of Science in Mechanical Engineering — May 2021
Relevant Coursework: Optimization, Statistics, Machine Learning, Project Management

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, C, Jira, SolidWorks, Ansys, LabVIEW, Arduino, ROS, Linux, SQL, Power BI, ETAS INCA, Java

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

WORK EXPERIENCE

General Motors — Milford, MI

Software Engineer – Thermal Runaway Propogation Diagnostics and Prognostics — June 2023 - Present
- Developing novel diagnostic algorithms for embedded vehicle controllers in C for proactive detection and prevention of battery-related fires in EV's
- Optimizing software test development and automation in Agile framework, ensuring quality requirements are met

Assistant Program Engineering Manager – BEV3 Programs — February 2023 – June 2023
- Facilitated implementation of advanced technology projects across the EV portfolio to ensure on-time delivery
- Managed Bose Strategic Supplier Innovation project to deliver first to market audio features for GM vehicles. Culminated with demos of novel features to senior executives and customer facing clinic with market research team

NextGen Controls Design Engineer – Vehicle Motion Embedded Controls — August 2022 - February 2023
- Developed advanced brake control algorithm 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 Agile Framework analytics dashboards with SQL queries and Power BI updates
- Conducted exploratory analysis of Power BI timeline visualization capabilities to enhance existing vehicle program timeline visualization. Successfully integrated proposed solutions on dashboard for improved data visualization

System Safety Engineer – Engine Controls — June 2021 - February 2022
- Created system-based model for EV Torque Arbitration System within Ansys Medini to modernize and replace existing document-based safety case. Leveraged subject matter experts across GM to enhance quality requirements
- Supported validation of engine controllers involving HIL testing, updating tools, and hosting design quality 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 feature extraction and machine learning models in Python to classify pneumatic valve events and predict valve response times from sensors, proving feasibility for adoption on new platform

EXTRACURRICULAR ACTIVITIES

GM Carnegie Mellon University Recruitment Team – *DEI Recruiting Lead* — July 2022 - Present
- Leading recruiting efforts for CMU DEI clubs, involving on-campus events with GM vehicles and 40+ students

GM TRACK Diversity, Equity, & Inclusion Board – *Team Co-Lead* — June 2021 – June 2023
- Spearheaded team of 10 to publish DEI cookbook; recognized by C-Suite executives for promoting DEI culture
- Led team of 30 to create 10+ DEI events and initiatives for 700 engineers in GM early career rotational program

GM TRACK Vehicle Motion Embedded Controls Team - *Function Lead* — July 2022 – January 2023
- Organized 10+ professional development and networking events for 50+ engineers within organization

ACCOMPLISHMENTS

GEM Full Fellowship – Carnegie Mellon Full Scholarship & Lam Research Internship

UC Berkeley Research Publication – "Algorithmic-driven design of shark denticle bioinspired structures for superior aerodynamic properties" J Ott, M Lazalde, GX Gu, Bioinspiration and Biomimetics (2019)