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Yusef Mostafa

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WORK EXPERIENCE

GENERAL MOTORS

Project Engineer – Power Electronics, Warren, MI Jan 2025 – Present

- Leading virtual design and analysis of 12V electric power components including lithium-ion battery and motors
- Managing component requirements and supplier timelines for Level 3 autonomous components
- Created 40+ motor models (Simulink) and automated test cases to perform part reduction and sizing studies

Safety Performance & Integration Engineer, Warren, MI Oct 2023 – Jan 2025

- Performed side, front, and rear structure crash CAE simulations (LS-DYNA) to assess vehicle structural safety
- Contributed to \$20M in cost savings through cross-functional cost reduction initiatives
- Peer-reviewed findings in safety forums with stakeholders to ensure safety performance metrics were achieved
- Created custom scripts (Python) to automate simulation post processing (Metapost) and IHS report writing

JOHNSON & JOHNSON

R&D Engineering Intern – Leadership Development Program, Los Gatos, CA May 2022 – Aug 2022

- Supported development, testing, and 510(k) clearance of an ultrasound catheter device with 4D imaging
- Conducted DFMEA assessments to provide material alternatives to existing design due to sourcing constraints
- Executed design verification and validation testing to evaluate reusability of single use catheter device

TESLA

Global Battery Manufacturing Launch Engineer Intern, Fremont, CA Jan 2022 – April 2022

- Supported global launch and production ramp-up of Model Y battery pack lines across 5 manufacturing plants
- Designed and fabricated tooling, reducing cycle time of key manufacturing processes by over 50%
- Led setup of advanced manufacturing equipment, including adhesive, pneumatic, robotic, and vision systems
- Managed end-to-end design and procurement of tools and fixtures critical to meeting program milestones

TOUCHPOINT MEDICAL

Mechanical Engineering Intern, Odessa, FL June 2021 – Aug 2021

- Designed sheet metal parts for DFM and DFA and created drawings using GD&T and ASME standards
- Implemented and documented design revisions for products through change notices and design control systems

EDUCATION

Masters of Engineering in Mechanical Engineering, Georgia Institute of Technology Aug 2023

Bachelors of Science in Mechanical Engineering, University of Florida May 2021

TECHNICAL SKILLS

CAE & CAD Tools: Solidworks (CSWA), NX, CATIA, AutoCAD, Teamcenter, Primer, ANSA, Metapost, LS-DYNA

Languages/Tools: MATLAB, Simulink, Python, C, Jira, Github

Certifications: Six Sigma Blackbelt, Engineer in Training (EIT)

Graduate Coursework: Machine Learning, Machine Vision, Robotics, Iterative Math, Algorithms and Optimization

LEADERSHIP EXPERIENCE

Team Leader, IPPD Capstone Project Sep 2020 – May 2021

- Led a team of 6 to prototype a chemical reactor kit, overseeing mechanical, electrical, and software integration
- Modeled and fabricated reactor parts, developed a custom PCB, and programmed a GUI to control the reactor

Design Team Leader, Biomedical Engineering Design Competition Jan 2019 – May 2019

- Led a team of 4 engineers in developing a 3D printed hand exoskeleton for users with hand disabilities
- Received 1st place award in university-wide undergraduate and graduate research design competition