Michael Saggese

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Project Portfolio

Mechanical Engineering Experience

TREMEC Electric GT **Product Engineer** **October 2023 – Present**

Electric vehicle retrofit kit development for Porsche 911 and AC Ace platforms

- Designed, analyzed, and documented sheet metal, CNC-machined, and 3D-printed components for high-voltage battery systems
- Coordinated with international teams to develop and manage complex CAD models and engineering drawings, ensuring design accuracy and manufacturability
- Collaborated cross-functionally with purchasing and manufacturing teams to resolve sourcing challenges

EVOD Industries **Lead Designer** **June 2023 – October 2023**

Design of one-off components for high-end show cars

- Created highly accurate 3D models using 3D scanning with customization based on customer designer sketches
- Developed a novel design for 3-piece center lock wheels with hidden fasteners and integrated brake hat

Leidos **Mechanical Engineer** **August 2021-June 2023**

Integration of X-ray systems onto large truck platforms for field use in port and border security checkpoints

- Designed and conducted FEA analysis on sheet metal and CNC machined components to withstand harsh operational environments while minimizing weight
- Developed heavy duty hydraulically actuated mechanisms for suspension locks and X-ray source locks
- Engineered a deployable operator workstation desk, maintaining OEM design aesthetics
- Conducted failure analysis and implemented design improvements to enhance durability

Meritor / TransPower **Mechanical Engineer** **January 2021- July 2021**

Rapid prototyping of electric drivetrains for Class 8 trucks

- Designed ruggedized sheet metal components for integrating electronic systems into semi-trucks
- Developed high-voltage motor cables and complex low-voltage control harnesses for yard tractor platform
- Created and reviewed top-level assembly models and technical drawings

Global Air Logistics and Training **Mechanical Engineer** **June 2018- October 2020**

Rapid prototyping of military radio communication nodes

- Designed modular aluminum racks to integrate military radios into high altitude airborne pods and ground-based systems to test prototype antenna arrays and new waveform technology
- Engineered power, RF, Ethernet (fiber/copper), and serial networks meeting TEMPEST standards
- Developed Ethernet network system for NASA's WB-57 High Altitude Research Program
- Trained designers in engineering drawing best practices using redline and release processes

GoWesty Camper Products **Mechanical Engineer** **August 2016-May 2018**

Aftermarket product development for the Volkswagen Vanagon, focusing on manufacturability and off-road capability

- Led the launch of a replacement fuel injection system, incorporating coil-on-plug technology
- Conducted road and dyno tuning for performance consistency across a wide range of engine displacements
- Designed and validated prototypes through controlled testing, including vibration and thermal stress analysis
- Authored installation and troubleshooting guides to support end-users and customer service teams

Education

California Polytechnic State University, San Luis Obispo
B.S. in Mechanical Engineering, June 2016

Summer Internships:
Leidos 2013, 2014, 2015

- Reverse engineered Betatron X-ray source

Specialization Courses:

- Ground Vehicle Dynamics
- Experimental Methods in Mechanical Design
- Industrial Automation

Skills

Software:

- SolidWorks (13 years), SolidWorks PDM, FEA
- Fusion 360 (1 year)

Engineering & Manufacturing Processes:

- 3D printing (FDM, SLA)
- Injection molding
- Friction stir and laser welding
- GD&T application
- Auto body sheet metal shaping