

Experience

Test Engineer

Transportation Research Center July 2021 - Current
Working with Waymo and JLR

- Autonomous Vehicle Collision Avoidance and Vehicle Handling
- Test design, scheduling, coordination, and execution of collision avoidance testing and limit testing
- Collision avoidance simulation analysis
- Autonomous limit/standardized testing

Project Manager and Suspension Director

Formula Buckeyes FSAE Team Aug 2017 - May 2021
Design, Built, and Raced 4 Formula Style Vehicles.

- Responsibilities involve outlining a plan to design, build, and test a Formula SAE vehicle each year along with directing 50+ driven engineering students through the pandemic.
- Design and built 4 similar suspension systems for a competitive FSAE car.
- Complete vehicle architecture design for FB21
- Simulated full vehicle and suspension systems in CarSim and MATLAB/Simulink
- Developed tools in MATLAB for tire analysis, later converted tools to python

Test and Simulation Engineer Co-Op

American Showa R&D May 2019 - Dec 2019
Shock absorber laboratory and on-vehicle testing

- Implantation of laser displacement sensors on to vehicles along with comparing them to current technology for stroke sensing.
- Installed a suspension-oriented sensing package on an OEM side-by-side for ride characterization and analysis
- Electrical, Mechanical, and Data Engineering principles were applied consistently to solve problems.

Mechanical Engineer Intern

Carlisle Brake and Friction May 2018 - Aug 2018
Design and implementation of various lean solutions

- Helped with the expansion of a large-scale manufacturing plant of friction materials for the aviation and automotive industry.
- Design of jigs and various parts used consistently by operators.

Skills

- **Rapid Prototyping**
- **CAE Vehicle Design and Simulation**
- **DAQ System Integration and Testing**
- **Python / MATLAB Tool Development**
- **Project / Resource Management**
- **People Management**
- **Novice Software Programmer**

Education

B.S. in Mechanical Engineering

The Ohio State University Aug 2016 - May 2021

- Provost Merit Scholarship
- GPA: 3.28

Achievements

- FSAE Michigan 13th Overall and FSAE North 3rd Overall
- Led FSAE team to design and build a whole new vehicle during the pandemic with a top five finish in FSAE Design (5/120)
- Stow Munroe Falls Football Captain and OHSA All-State Linebacker 2016. Track Captain 2015 and 2016

Interests / Personal Projects

- **Trying to expand my skill set into electrification of vehicles, ML / AI, embedded technologies, and coding.**
- 4 Wheel In-Hub RC Car
- Tire Data Apps
- Personal Website
- TinyML / TensorFlow cat water turret
- 3D Printing

[Website](#)



jakobmadgar.com

[Work #1](#)



[Work #2](#)



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