Jakob Madgar

<div align="right">Mechanical Engineer</div>

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Experience

Research Engineer II

⌖ Transportation Research Center   🗓 Jul 21 - Current

Working with Waymo and JLR

- Autonomous Vehicle DVP and Platform Development
- Body Control Scripting, Testing, and Analysis Collision avoidance simulation analysis
- Low Mu Condition Testing Design and Analysis
- Subsystem Level Testing and Development

Project Manager and Suspension Director

⌖ Formula Buckeyes FSAE Team   🗓 Aug 17 - May 21

Designed, Built, and Raced 4 Formula Style Vehicles

- Responsibilities involved outlining a plan to design, build, and test a Formula SAE vehicle each year along with directing 50+ driven engineering students through the pandemic.
- Designed four similar suspension systems
- Led the complete vehicle architecture re-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
- Completed senior capstone on the co-design of suspension and aerodynamic systems

Test and Simulation Engineer Co-Op

⌖ American Showa R&D   🗓 May 19 - Dec 19

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
- Shock Valving characterization on EM dyno

Mechanical Engineer Intern

⌖ Carlisle Brake and Friction   🗓 May 18 - Aug 18

Design and implementation of various lean solutions

- Helped with the expansion of a large-scale friction materials manufacturing plant 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**
- **ML/AI/RL Futures Trading Research**
- **Novice Software Programmer**

Education

B.S. in Mechanical Engineering

⌖ The Ohio State University   🗓 Aug 16 – May 21

- 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 (of 120)
- Stow Munroe Falls Football Captain and OHSAA All-State Linebacker 2016. Track Captain 2015 and 2016

Interests / Personal Projects

- **Expanding my skill set into electrification of vehicles, ML / AI, embedded technologies, and algorithm trading.**
- 4 Wheel In-Hub RC Car
- Tire Data Apps
- Personal Website
- C++ and Tensorflow for Sierra Chart
- 3D Printing

Website	Work Example: Tire App	Work Example: Presentation	Article about me

jakobmadgar.com

References are Available Upon Request / Digital copy of resume on website