Thaddeus J. Hughes

hughes.thad@gmail.com / 309-530-0909 / thaddeus-maximus.github.io

Objective: Full-time position in Structural, Electromechanical, or System Design

- Looking to start in mid to late summer of 2019
- Eager to relocate, especially to western US

Education:

Rose-Hulman Institute of Technology – B.S. Mechanical Engineering **May 2019**

- GPA: 3.85
- Minors: Electrical Engineering, Computer Science, Computational Science
- Non-Standard Courses: Advanced Finite Element Analysis, 3D Dynamics, Computational Science and Modeling

Experience:

Mechanical Engineering Intern – Textron Specialized Vehicles **June 2018-August 2018**

- Assisting current engineers in cost-down efforts on RXV golf cart line
- Creating alternative design concepts to reduce cost and improve quality of existing product

Technical Director - Formula SAE (RoseGPE) **May 2017 -Present**

- Managing 30+ person engineering team for student design competition, 20-60 hrs/week
- Managing vehicle design and providing technical guidance and oversight for all systems and analyses
- Generate requirements documentation to provide clear goals for vehicle development
- Developed new lap time simulation package to test various vehicle concepts and study effects of parameters on performance

Drivetrain / Actuation / Unsprung Mass Lead - Formula SAE (RoseGPE) **September 2015-May 2018**

- Analyzed and designed drivetrain and unsprung mass systems to reduce mass and increase strength with FEA
- Worked with manufacturers to produce prototype parts
- Designed, fabricated, and tested prototype electronic shifting and clutch actuators

Simulation Engineering Intern - Caterpillar **June 2017-August 2017**

- Learned torsional vibration analysis (TVA) and other engine simulation tools
- Developed new analysis methods for gas engines
- Analyzed variations in engine characteristics due to variations in cylinder pressure

Mechanical Engineering Intern - Hughes Network Systems **June 2016-August 2016**

- Tested Jupiter-2 product line for thermal, shock, and vibration resistance
- Designed test fixtures for RF and pressure leak testing on radio housings with Creo Parametric

Machinery Operator, Tech Support - Progressive Prairie, Inc. **August 2009-July 2015**

- Work for Family Farm Operation, 10-80 hrs/week
- Upkeep and Repair of Combine, Semi, Augers, Electronics
- Designed network to access and control grain dryer, created centralized fileserver

Skills:

- **CAD Design** (SOLIDWORKS (4 years), NX (1 summer), Creo Parametric (1 summer))
- **Simulation:** FEA experience (ANSYS (4 years), SOLIDWORKS (4 years), NASTRAN), TVA modeling, self-written simulations
- **System Analysis** (Statics, Fatigue, Mechanical/Fluid/Electrical Systems, Vehicle Dynamics, and 3D Dynamics)
- **Programming**: C/C++, C#, Python, Java, Arduino, JavaScript, PHP (all 6-8 years) and MATLAB (4 years) experience
  - Experience with advanced libraries like OpenCV, scipy/matplotlib, full-stack development
- **Machining** (Mill, Lathe, Shear, Brake, etc.) and welding (MIG/TIG steel and aluminum), CAM (HSMWorks) experience
- **Collaboration,** documentation and team management skills

Other Activities and Honors:

- Opinions Editor for The Rose Thorn (Student Newspaper)
- FRC/FLL Team Captain/Mentor
- 4H Youth In Action Award Winner
- FIRST Robotics Competition Dean's List Finalist