

# Thaddeus Hughes

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## PROFILE

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In the past 5 years, I have successfully led several teams and managed priorities to deliver innovative and optimized engineering solutions against tight deadlines. My work has reduced the time, money, and energy required to make reliable systems and products. On top of this, I have taught and mentored others to be able to execute in the same capacity to drive even greater results. Creative problem solving is my passion, and I love finding novel solutions to complex problems.

## EDUCATION

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**Rose-Hulman Institute of Technology** **Terre Haute, IN**  
**B.S. Mechanical Engineering** – GPA: 3.8/4 May 2019  
Minors - Electrical Engineering, Computer Science, Computational Science  
Dean's List – 4/4 years

## EXPERIENCE

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**Mechanical Design Engineer** **Manchester, NH**  
DEKA Research and Development Jun 2019 – Present

- Enabled a projected \$4 million year-on-year savings by optimizing design and manufacturability, reducing cost by 80%
- Led the development of 6 modules while collaborating in a team of 7 to deliver functional prototypes
- Reduced development costs using CAD, FEA, & Rapid Prototyping to develop prototypes, demonstrating product function
- Delivered minimum viable product to client with all deliverables 25% ahead of schedule, securing second round of funding
- Revised product to increase product life and in-field serviceability for HemoCare home dialysis device

**Mechanical Engineering Intern** **Augusta, GA**  
Textron Specialized Vehicles Jun 2018 – Aug 2018

- Delivered \$1 million annual savings by redesigning upper golf car assemblies to enable efficient packaging and shipping
- Eliminated a quality gap by working with technicians on the floor to develop and implement a calibration procedure
- Increased quality and reduced scrap loss by developing and executing improvement projects
- Assessed feasibility of multiple product optimizations using CAD

**Technical Lead** **Terre Haute, IN**  
Formula SAE May 2017 – May 2019

- Developed two formula racecars from conception to finished prototype, 1-year development cycles
- Managed 25 direct reports across powertrain, chassis, aerodynamics, electrical, and suspension subteams
- Using \$100,000 annual budget, fulfilled all project deliverables
- Communicated priorities and resolved conflicts between cross-functional teams enabling quick design changes
- Designed simulation package to identify and maximize key performance characteristics
- Led subsystems specializing in mechatronics, structural design, and design for manufacturability
- Created design logs and trained 40+ team members allowing for effective knowledge transfer and role successions

**Simulation Engineering Intern** **Peoria, IL**  
Caterpillar Jun 2017 – Aug 2017

- Developed software analysis tool that accounted for combustion anomalies to help design more robust engines
- Updated simulation resulted in over 80% correlation with dynamometer test data
- Saved approximately \$50,000 per engine tested by reducing testing necessity by 50%

**Mechanical Engineering Intern** **Germantown, MD**  
Hughes Network Systems Jun 2016 – Aug 2016

- Tested upcoming satellite radios for thermal, shock, and vibration resistance to ensure launch readiness
- Improved manufacturing reliability by executing destructive testing and analyzing results
- Designed 5 test fixtures for radio frequency performance and leak testing, leading to production line improvements

## TECHNICAL SKILLS

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**CAD:** SolidWorks (5 years), NX (1 year), Creo Parametric / Pro-E (1 year), OnShape (1 year)

**Programming:** 8 years experience in C/C++, C#, Java, JavaScript, PHP, Python, 4 years MATLAB

**Simulation:** FEA - ANSYS (4 years), SolidWorks (4 years), MecWay (1 year), TVA, self-written simulations

**Analysis:** Statics, Fatigue, Mechanical/Electrical Systems, Vehicle Dynamics, 3D Dynamics

**Fabrication:** Mill, Lathe, Shear, Brake, Welding (MIG/TIG), CNC/CAM (HSMWorks)

**Business:** Team and Project Management (8 years), Timeline Development, Cost Estimation