

# Thaddeus Hughes

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## PROFILE

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I'm a mechanical engineer with strong programming and fabrication background. I've worked with a plethora of different technologies and teams ranging from farmers to pharmaceuticals. I bring a unique perspective and skillset to produce creative or cross-pollinated solutions to tough problems and leave behind repairable and extensible solutions.

## EXPERIENCE

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### Mechanical Design Engineer

Nashua, NH

#### DAPR Engineering

Aug '22–Dec '22

- Analyzed conceptual designs of composite fabrication equipment for feasibility
- Designed, pitched, and developed alternative concept paths that better met time, resource, and budget limits
- Made physical mocks and prototypes to prove out concept viability and potential drawbacks with minimal expense

### Mechanical Design Engineer

Manchester, NH

#### DEKA Research and Development

Jun '19–Aug '22

- Led the development of IV Solution module while collaborating in a team of 7 to deliver functional prototypes
- Delivered minimum viable product to client in full 25% ahead of schedule
- Developed test fixtures with electronic components ranging from simple data logging to real-time motion profiling
- Utilized CAD, FEA, & Rapid Prototyping to develop prototypes demonstrating product function

### Mechanical Engineering Intern

Augusta, GA

#### Textron Specialized Vehicles

Jun '18 – Aug '18

- Delivered \$1 million annual savings by redesigning 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

### Technical Lead

Terre Haute, IN

#### Formula SAE

May '17 – May '19

- 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
- Developed vehicle dynamics package from scratch to identify and maximize key performance characteristics
- Led subsystems specializing in mechatronics, structural design, and design for manufacturability

### Simulation Engineering Intern

Peoria, IL

#### Caterpillar

Jun '17 – Aug '17

- Developed software analysis tool that accounted for combustion anomalies to help design more robust engines
- Saved approximately \$50,000 per engine tested by reducing testing necessity by 50%

### Mechanical Engineering Intern

Germantown, MD

#### Hughes Network Systems

Jun '16 – Aug '16

- Executing existing test procedures and providing recommendations for improvements
- Designed 5 test fixtures for radio frequency performance and leak testing, leading to production line improvements

### Farm Hand, IT Support, Etc.

Shirley, IL

#### Progressive Prairie (Family farm growing 2500 acres of Corn & Soybeans)

2008 – 2015

## EDUCATION - Rose-Hulman Institute of Technology

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Terre Haute, IN

### B.S. Mechanical Engineering – GPA: 3.8/4

May 2019

Minors - Electrical Engineering, Computer Science, Computational Science

## TECHNICAL SKILLS

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**CAD:** SolidWorks (6 years), NX (1 year), Creo Parametric / Pro-E (1 year), OnShape (2 years), Fusion 360 (1 year)

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

**Simulation:** FEA - ANSYS (4 years), SolidWorks (5 years), MecWay (1 year), TVA, self-written simulations

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

**Fabrication:** Mill, Lathe, Shear, Brake, Welding (MIG/TIG), CNC/CAM (HSMWorks, Fusion360, self-written gcode)

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

## REFERENCES (contact information, and more, available upon request)

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Fraser Tibbets – Engineering Manager at DAPR Engineering

Chris Langenfeld – Chief Engineer of Advanced R&D at DEKA R&D