

# Josh Tobben

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## Objective

Seeking a Manufacturing Engineering role following graduation in December of 2026

## Education

Iowa State University, College of Engineering - Ames, Iowa  
Bachelor of Science, Mechanical Engineering

3.80/4.00  
December 2026

## Work Experience

Hawkeye Molding Company – Roland, IA  
Continuous Improvement Specialist

August 2025-Current

- Utilized Kaizen continuous improvement practices to design and optimize injection molding work cells with a focus on low cycle time and minimal waste
- Designed, manufactured, and implemented jigs and fixtures for post processing of injection molded parts
- Ensured efficient and consistent processes through creation and revision of Standard Operating Procedures (SOP)

Caterpillar – Peoria, IL  
Control Systems Intern, Excavation Division

May 2025-August 2025

- Developed and implemented a PID controller in Simulink, achieving a 44% reduction in error for the swing motor pressure differential
- Used Vector CANape to collect and analyze PID controller data; iteratively tuned control parameters to enhance swing control and efficiency
- Condensed machine connection and instrumentation hardware into a compact case for simpler machine connection
- Safely operated and tested hydraulic excavators to validate performance

Boyd Lab – Ames, IA  
Student Lab Technician

Jan 2025-May 2025

- Trained and supervised engineering students in a woods and metals fabrication shop, teaching best practices for safe machine operation
- Supported student organizations by machining components on mills and lathes in collaboration with fellow technicians

Vactor Manufacturing – Streator, IL  
Manufacturing Engineering Intern, Jig and Fixture

May 2024-August 2024

- Designed a standardized transportation cart to streamline four assembly variants to one cart, improving material handling efficiency
- Used Inventor to reverse engineer production tooling, utilizing AutoCAD documentation alongside physical components, enhancing design accuracy and allowing for revisions to component design
- Converted CAD designs into technical drawings for jig and fixture fabrication and assembly
- Implemented documentation and organization for manufacturing fixtures, increasing equipment utilization

## Activities & Leadership

Tau Beta Pi – Iowa Alpha Chapter

2025-Current

PrISUm Solar Car Club

2023-2024

- Simulated roll cage impact testing using Ansys FEA to ensure occupant safety and structural efficiency

FIRST Robotics Competition (FRC) – Design Team Lead (23)

2020-2023

## Skills

Software: Inventor, SolidWorks, Fusion360(CAM), Vector CANape, Simulink, Ansys, JavaScript, Python, MATLAB

Hard Skills: CNC Fabrication, Mill, Lathe, Welding (SMAW, GMAW, GTAW), Lean manufacturing

Other Skills: Lean Manufacturing, Geometric Dimensioning and Tolerancing, Git, Data Analysis