

# Gordon Hatcher

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## Education

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### University of Massachusetts Amherst

#### **Bachelor of Science, Mechanical Engineering**

**Spring 2024**

Relevant Coursework: Computational Approach to Engineering Problems, Manufacturing Processes, Technical Writing, Design of Mechanical Components, Fundamentals of ECE, Engineering Lab 2

#### **Master of Science, Mechanical Engineering | Certificate of Engin Management**

**Spring 2025**

Relevant Coursework: Advanced Thermodynamics, Solar Energy Collection, Power Systems Design, Practical Medical Device Design, Nonlinear Dynamics, Robotics Programming, Technical Project Management

## Engineering Experience

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### Process Engineering Intern | *Innova Plastics Engineering, Shirley, MA*

**Summer 2024**

*Medical Manufacturing Compliance Transition:*

- Developed QMS procedures for transition to ISO 13485 compliance and performed installation qualification on shop machinery

*Lean Process Improvement:*

- Identified paint consumption issue and collaborated with shop employees to develop and deploy consumption measurement procedure.
- Coded interface to record metrics and produce consumption statistics using Visual Basic

### Engineering Design Intern | *Cofab Design, Holyoke, MA*

**Summer 2023**

*Implant Tool Test Fixture:*

- Designed and built a test rig to replicate a human nerve to test the effectiveness of a nervous implanting tool.
- Utilized FDM and SLA printing to fabricate parts for assembled and tested rig with customer product.

*Medical Bag Testing and Standards Review:*

- Drafted testing procedure for pressure testing medical bags in accordance with ISO 61010 Section 11
- Conducted testing in accordance with procedure to determine effectiveness of bag enclosure.

### Design Contractor | *Remote*

**Fall 2023**

- Migrated customer design from Solidworks to Onshape while retaining accuracy for DHF.
- Cooperated with client to develop design for next generation product.

### Design Lead | *Capstone Senior Design Project*

**Fall 2023**

- Created proof of concept multi-step manufacturing device through sponsor design specification and input.
- Designed mechanical, pneumatic, and electrical control systems.
- Fabricated, tested and refined manufacturing device for delivery to sponsor, achieving 1st Place in design contest.

### Catheter Design Project | *Practical Med Device Design*

- Designed and prototyped catheter hub with hemostatic lock, capable of injecting contrast. Developed and tested in accordance with ISO 594 following FDA 820.30 design control practices.

## Additional Experience

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### Graduate Teachers Assistant | *Industrial Automation & Senior Design Capstone* Fall 2024 – Spring 2025

- Reviewed and graded assignments covering Process Plans, Flow Maps, P&ID, and Ladder Diagram PLC coding.
- Lead weekly progress update meetings with student teams, mentoring and providing constructive feedback.

### Graduate Student Advisor | *UMASS College of Engineering*

**Fall 2024 – Spring 2025**

- Managed class enrollment of 80 students during registration periods. Tailored schedule for each student.

### MATLAB Tutor | *UMASS College of Engineering*

**Spring 2022 – Spring 2024**

- Helped students dissect and troubleshoot complex problems within MATLAB.
- Fostered the learning of MATLAB concepts through custom exercises and pseudocode explanations.

## Skills and Interests

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**Technical Skills:** MATLAB, SolidWorks (CSWA Certified), OnShape, ANSYS, COMSOL, Arduino IDE, Microsoft Office Suite & Projects, Google Suite, Shop Machinery and Hand Tools, Basic Soldering and Welding

**Interests:** Bouldering, Backcountry Skiing, DIY Automotive Mechanics, Carpentry, Metal Working