Michael Grady

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SUMMARY

Motivated honors mechanical engineering senior with a strong academic record and a background in CAD and mechanical design, with an interest in manufacturing and systems integration.

EDUCATION

University of Massachusetts Amherst — Spring 2026
Bachelor of Science in Mechanical Engineering. Minor in Engineering Management — GPA 4.00
Commonwealth Honors College, Dean's List (All Semesters)

RELEVANT COURSEWORK

Industrial Automation, Dynamic Systems, Heat Transfer, Fluid Mechanics, Design of Mechanical Components, Manufacturing Processes, Strengths of Materials, Materials Science, Thermodynamics, Statistics | Operations & Info. Management, Accounting

SKILLS

SolidWorks(CSWA), MATLAB, AutoCAD, Ansys, Epicor, OnShape, Microsoft Suite, LaTeX, Machining, RF & Thermal Welding, Operations Management, Lean Concepts, Project Management, Jira

EXPERIENCE

Surface Ship Systems Intern, General Dynamics Mission Systems, Pittsfield, MA — May 2025 - Present

- Supporting the Ghost program with mechanical related development updates through prototype progression
- Updating Engineering Control Systems user documents for the Littoral Combat Ship's end-of-life cycle
- Assisting EPF/EMS ships through drawing updates, documentation control, and systems configuration management

Manufacturing & Operations Intern, UFP Technologies, Chicopee, MA — Summer 2024

- Conducted Kaizen and Lean workshops to increase operational efficiency on various production lines – implemented changes to save ~$250k annually
- Assisted with product validations, completing tensile tests and gauge R&Rs during each step – (IQ, OQ, PQ)
- Utilized SolidWorks and AutoCAD to prototype tooling and customize drawings and floor layouts
- Updated manufacturing documents to match current operation specifications. (MOSs, RFCs, DHRs, SWIs, etc)
- Tracked material use and updated existing BOMs for transfer between Epicor & BOMCheck

Honors Undergraduate Researcher, Fluid-Structure Interactions Laboratory — Spring 2025 - Present

- Completing thesis to investigate coupled-mode flutter in small-scale wind turbine blades
- Prototyping miniature blades based off the NREL 5MW turbine, casting and 3D printing to scale
- Using MATLAB to conduct frequency analysis of various airfoil models to determine oscillation frequencies

Ball-Bearing Sorter, ASME Mechatronics Team — 2024 & 2025

- Worked with team to design an autonomous ball-bearing sorter, placed 3rd out of 25+ teams
- Engineered a hopper and size sorting system to deliver and differentiate balls of varying sizes and materials
- Led the 3D printing of prototypes and testing of final assemblies

Miniature Golf Robot, ASME Mechatronics Team — 2023 & 2024

- Designed chassis, club parts, frame, and tread system with SolidWorks. 3D printed final assembly
- Designed a scotch yoke mechanism to move the ball from the previous hole to the next tee box
- Worked with team of 25 peers to complete the build in time for annual competition – placed 8th out of 30+ teams

Undergraduate Teaching Assistant, Various Mech. Eng. courses, UMass — Spring 2024 - Present

- Mentoring and guiding students through courses of varying difficulty, fostering a collaborative learning environment

PROJECTS

Object-Avoiding "Smart Car" — Fall 2024

- Programmed an Arduino Uno microcontroller enabling autonomous movement and maneuvering
- Utilized distance sensors to trigger audible alerts and visual indicators to signal obstacle detection
- Implemented collision-avoidance algorithms allowing the car to navigate a course and avoid obstacles

Multifunctional Bike Wrench — Fall 2024

- Designed a lightweight wrench using CAD and FEA(Ansys) to reach target strength-to-weight ratio
- Machined the wrench handle from aluminum stock while utilizing milling, drilling, and finishing techniques
- Conducted functional tests to verify the wrench's ability to tighten bolts to specified torque values

Dynamic Analysis Walkthrough — Spring 2024

- Conducted a dynamic analysis of a two-link arm with 2 degrees of freedom using Lagrangian Mechanics
- Simulated the arm using MATLAB to calculate and create a visual model representing the motion of the system

HOBBIES & INTERESTS

Basketball, Snowboarding, Golfing, Rock Climbing, Hiking, Skateboarding, ASME