Michael Grady

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SUMMARY

Motivated honors mechanical engineering junior 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 — Anticipated 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

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, Agile

EXPERIENCE

Surface Ship Systems Intern, General Dynamics Mission Systems, Pittsfield, MA — Summer 2025

- Working cross-functionally between different teams to support the surface ship program
- Updating Engineering Control Systems user documents for the Littoral Combat Ship's end-of-life cycle
- Supporting 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, Team Co-Lead, 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, Intramural Sports, Hiking, Skateboarding, ASME General Body