Nicholas Tessitore

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EDUCATION

Merrimack College, North Andover, MA — Expected: May 2027
Master of Science in Mechanical Engineering — **GPA: NA**
Honors: Graduate Fellowship beginning in August 2025

Merrimack College, North Andover, MA — May 2025
Bachelor of Science in Mechanical Engineering — **GPA: 3.54**
Honors: President's List Recipient, Dean's List Recipient
Relevant Courses: Dynamics, Engineering Vibrations, Engineering Controls, Instrumentation & Robotics, Advanced Materials & Finite Element Analysis
Memberships: American Society of Mechanical Engineers, Merrimack Robotics

SKILLS

- **Software:** MATLAB, Simulink, Autodesk Inventor, Python, C, LaTeX, Office
- **Professional:** Research and Literature Review, Team Leadership, Oral and Written Communications, Creative Problem Solving

EXPERIENCE

Merrimack College, North Andover, MA — January 2024 – Present
Undergraduate Researcher

- Researching human-robot interaction (HRI), specifically how robots may help encourage reading, literacy, and library patronage
- Programmed a humanoid robot to read and perform children's stories
- Adapted and validated a survey and analyzed its results
- Presented at Merrimack's Research and Creative Achievement Conference in May 2024 and 2025

PROJECTS

***Fluid Mechanics**, Waterslide Project* — Spring 2023

- Construct a piping system for a water slide, given some parameters and health considerations
- Derive an equation for pump loss and select a pump that clears the threshold
- Perform a cost estimate on the final slide design

***Heat Transfer**, Heat Exchanger Project* — Spring 2023

- Design and construct a heat exchanger with acrylic and copper pipes
- Perform theoretical calculations to verify experimental results
- Take measurements to determine experimental results

***Instrumentation & Robotics**, Mechanical Arm Project* — Fall 2024

- Design a Halloween-themed mechanical arm to pick up and distribute 10 chocolate bars
- Construct the arm using the Propeller ActivityBoard, Parallax sensors, and machined or printed parts
- Use the arm to hand out candy to people in the student center

***Instrumentation & Robotics**, Battle Bots Project* — Fall 2024

- Design a robot with a plastic exterior to compete against the class in RC and autonomous matches
- Must fit within an 8" cube, weigh less than 3lbs, and use the Propeller ActivityBoard

***Advanced Mechanics & FEM**, Engine Modeling Project* — Fall 2024

- Work with a partner to model an engine and analyze a connecting rod in Inventor
- Must be based on a real engine and include a crankshaft, all connecting rods, and all piston heads
- Perform FEM and Strain Energy hand calculations to verify Inventor simulation results

***Senior Design**, VEX Robotics Project* — Spring 2025

- Assigned to a team of 6 to build a robot for VEX competition "High Stakes", competed at the Framingham, MA VEX University competition in February 2025
- Created a Simulink model for the VEX V5 Smart Motor and PID controlled its velocity given the motor's response in a hardware loop

OTHER EXPERIENCE

Sudbury Farms Roche Bros, Sudbury, MA — Summer 2023 - Present
Deli Clerk

- Took deli orders from customers and provided efficient service
- Worked in a team to ensure customer satisfaction