Monica Ferluga

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EDUCATION

Northeastern University, Boston, MA *May 2028*
Candidate for Bachelor of Science in Mechanical Engineering & Design **GPA**: 3.69
Courses: Thermodynamics, Fluid Mechanics, Mechanics of Materials, Physics 1&2, Calculus 1-3, Statics
Activities: An active member of the American Society of Mechanical Engineers Club and the Sigma Delta Tau organization
Certifications & Awards: Dean's List, University Woodshop, MATLAB Onramp, BCG Introduction to Strategy Consulting

Scarsdale High School, NY – *High school diploma* *June 2024*
AP & Honors courses: Statistics, Entrepreneurship, Biology, Chemistry, Physics, Environmental Science, Pre-calc, Calculus

TECHNICAL SKILLS

Data Analysis & Automation: Microsoft Excel, Inventory Tracking Systems, Data Organization, Analytical Modeling
Mechanical Design & Fabrication: SolidWorks, Engineering Drawings, AutoCAD, BOMs, 3D Printing, Rapid Prototyping
Programming & Data: Python, VEX, C++, Sensor Integration, Basic Control Logic, MATLAB
Process & Project Management: Process Optimization, Workflow Standardization, Technical Documentation, Cross Collaboration

EXPERIENCE

VJ Electronix | Mechanical Engineering *Co-Op* – Chelmsford, MA (On-site) July 2026 - Present

- Analyze equipment performance and manufacturing workflows for inefficiencies and develop data-driven improvements.
- Work with engineers and technicians to troubleshoot equipment issues and improve machine performance.
- Develop mechanical designs, technical drawings, and BOMs in SolidWorks, supporting project documentation and implementation.

Monstef | *Intern* – Slovenia (On-site → Hybrid) May 2025 - June 2026

- Developed an Excel-based inventory management system to organize and track 800+ items, improving data accessibility and inventory visibility.
- Standardized inventory workflows, documented procedures, and trained 10+ team members.
- Identified operational inefficiencies and implemented practical improvements to inventory tracking and daily processes.

Alo | *Part-Time Operations Assistant* – Boston, MA (On-site) March 2026 - September 2026

- Supported daily store operations, inventory organization, and visual merchandising in a fast-paced retail environment.

Heathcote Elementary School | *Makerspace Leader* – Scarsdale, NY September 2020-2024

- Led the MakerSpace Club at a local elementary school with 40+ students teaching 3D printing using Tinkercad

PROJECTS

Core Lift Fixture | VJ Electronix — Chelmsford, MA August 2026

- Designed a lifting fixture in SolidWorks to support a heavy machine core during assembly.
- Applied top-down design and tested a physical prototype for fit, stability, and ease of use.

GeoCreatures: Interactive STEM Toy | Mills College Children's School— Oakland, CA January- April 2025

- Led the design and development of an interactive STEM toy using SolidWorks, Arduino, and 3D printing.
- Conducted user testing with 20+ students and teachers, incorporating feedback across three design iterations.
- Integrated mechanical components and electronics to create a functional classroom product.

Engineering Data Modeling Project | Columbia University – Manhattan, NY July- August 2024

- Applied data modeling and algorithmic techniques to analyze real-world datasets and evaluate system performance
- Built and validated predictive models, focusing on data quality, error analysis, and model evaluation

Autonomous Robotics Design & Competition Project | New York University – Manhattan, NY July- August 2023

- Designed, built, and programmed a functional VEX robot using mechanical design, circuitry, Python, and C++.
- Won first place in a program-wide robotics competition for innovative design and performance

INTERESTS

- International travel and cultural exploration, horseback riding, and learning new languages. Fluent in English and Slovenian, proficient in Russian, and currently learning French.