Erick Palka

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EDUCATION

Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science
Bachelor of Science in Mechanical Engineering, Minor in Sustainable Engineering *Expected May 2027*
Cumulative GPA: 3.40/4.00 | **Dean's List**: Fall 2023, Spring 2025 | **Honors:** NYS STEM Scholarship Recipient
Relevant Coursework: Thermodynamics, Computer-Aided Engineering, Engineering Analysis, Dynamics, Science of Materials

TECHNICAL SKILLS

Software: PTC Creo 3.0 (Pro/Engineer), ANSYS APDL, SOLIDWORKS, Fusion 360 (CAD/CAM), Microsoft Office Suite
Programming Languages: MATLAB, Java, C/C++
Fabrication Experience: Lathe, vertical mill, horizontal grinder, band saw, drill press, Fused Deposition Modeling (FDM), laser cutting, soldering, welding, CNC

PROFESSIONAL EXPERIENCE

ETS: Emerging Technology Studio, *Manufacturing Service Admin* | Binghamton, NY *February 2024 – Present*

- Supervise the production of student-requested manufacturing projects, coordinating shop workflow, semesterly production quotas, and quality control, ensuring accurate and functional parts are delivered on time.
- Support additive manufacturing operations on Prusa and Bambu Lab FDM printers utilizing PrusaSlicer and Bambu Studio for print optimization, adjusting infill patterns, layer heights, and thermal settings to achieve part requirements.
- Allocate and manage a $20K semesterly budget, balancing equipment upgrades, consumables, and preventative maintenance, while maintaining a detailed cost sheet in Microsoft Excel.
- Establish bi-semesterly machine life reports evaluating successful cycles, downtime, and failures, with next steps to redesign and validate mechanical tooling within Fusion 360.

BEAR: Bakery Equipment And Repair, *Service Engineer Intern* **|** New York City, NY *May 2025 – August 2025*

- Resolved on-site service calls at 30+ client locations, diagnosing and repairing industrial bakery equipment across multiple manufacturers.
- Adapted engineering principles to troubleshoot complex electronic and mechanical systems, performing schematic and solution reviews to resolve failures, minimizing equipment downtime and operational profit loss.
- Preserved machine life by producing obsolete replacement parts, performing drafting, modeling, finite element analysis (FEA), and precise hand machining with the use of a manual lathe and mill.

PROJECT EXPERIENCE

3D Printed Intake Manifold, *Creator* *October 2025 – Present*

- Fabricated a fully 3D printed intake manifold for a Kawasaki Ninja 650 motor, integrating 3D scan constraints, vehicle datalogging, and Helmholtz resonance calculations to optimize airflow and performance.
- Engineered early prototypes within Fusion 360, validating their fit and packaging, manufacturing the final design from PPA-CF nylon balancing material cost, thermal resistance, and structural integrity.
- Validated intake mechanical reliability through bench-top testing under full-vacuum conditions.

Formula Society of Automotive Engineers, *Drivetrain Team Lead* *June 2024 – Present*

- Responsible for training team members, scheduling, purchasing, and defining vehicle design intent to support the development of a student-designed electric racecar.
- Design and manufacture driveline components such as brakes, motor mounts, axles, powertrain, cooling, and pedal box.
- Completed vehicle placed 2nd in the Green Grand Prix held at Watkins Glen International Raceway.

Airfoil Linkage Design and Analysis, *Designer* *November 2025 – December 2025*

- Constructed an extendable airfoil assembly including wing, flap, pins, and linkages within Creo using general dimensions.
- Studied motion analysis of the model, extending and retracting under 60 seconds with an applied 1,200-pound drag force.
- Conducted finite-element analysis through ANSYS APDL to generate Von Mises stress contour plots and evaluate the factor of safety across multiple linkage geometries and material selections.
- Summarized findings in a comprehensive 30-page report reviewing airfoil design and linkage verification results.

LEADERSHIP EXPERIENCE

FIRST Robotics, *Mentor* *March 2024 – Present*

- Mentored high school students in competitive robotics, providing hands-on training in modeling and rapid prototyping.
- The team was awarded the Connect 2nd Place prize at the NYC #6 qualifiers, demonstrating significant improvement.

Society of Automotive Engineers (SAE), *Vice President* *June 2024 – June 2025*

- Oversaw the planning and execution of chapter activities, including technical projects and on-campus events.
- Hosted industry days with external organizations, increasing student exposure to vehicle development.