Isabella Pensabene

New York, NY | (917) 862-7077 | irp28@cornell.edu | bpensabene7@gmail.com | LinkedIn

EDUCATION

Cornell University, College of Engineering   **Ithaca, NY**
B.S., Mechanical Engineering | GPA: 3.9   *Expected May 2027*
Relevant Coursework: Fluid Mechanics, System Dynamics, Mechanics of Materials | Dean's List (4x) | SAT: 1540

PROFESSIONAL EXPERIENCE

Baja SAE Project Team   **Ithaca, NY**
Recent results: 1st Mike Schmidt Iron Team, 1st Overall Baja SAE Carolina, !st Overall Baja SAE Maryland, 1st Overall Baja SAE Arizona
Suspension Subteam Lead   *August 2025 - Present*
- Leading collaboration and integration of suspension subsystem for off-road racing vehicle
- Designing steering rack for the vehicle using Solidworks CAD, Kissoft for gear validation, and Ansys for load analysis
- Working towards machining certification for 4th and 5th axis CNC mills to machine steering rack out of titanium

Drivetrain Subteam Member   *August 2024 - August 2025*
- Designed guarding for continuously variable transmission (CVT) in Solidworks CAD to comply with competition regulations
- Performed Computational Fluid Dynamics (CFD) to simulate airflow to validate designs for CVT guard using Ansys Fluent
- Fabricated CVT Guard using TIG welding and carbon fiber layups
- Created CAM toolpaths and operated Tormach CNC to perform precision machining

Brakes Subteam Member   *October 2023 – August 2024*
- Designed and soldered wiring for brake light and kill switches of vehicle, mandated by rules to be operational at all times
- Designed and 3D printed housing to protect battery from mud, water, and dirt and withstand rough driving conditions

Innovative Dynamics, Inc.   **Ithaca, NY**
Engineering Intern   *June 2025– September 2025*
- Tested effectiveness of methods for training Two-Way Shape Memory Effect in NiTi alloy
- Simulated Nickel Titanium Shape Memory Alloy on helicopter rotor airfoil to analyze stress and strain for deicing
- Developed and tested MATLAB program for calibrating road condition sensor using machine learning classification methods

Lovefins   **Fire Island National Seashore, NY**
Dockmaster   *July 2020 – August 2024*
- Managed slip reservations, docking, and maintenance of 45 slip marina for boats up to 60ft long
- Adapted to other roles as needed, including ice cream scooper, barback, and concessions worker

Vail Resorts   **Okemo Mountain Resort, VT**
Junior Ski Coach   *November 2020 – December 2022*
- Collaborated with other coaches to maintain safety of children aged 7-12 while training them to ski competitively

LEADERSHIP & COMMUNITY INVOLVEMENT

Society of Women Engineers   **Ithaca, NY**
Brownie Committee Member   *September 2023 – December 2023*
- Planned and facilitated event to teach 40 Brownie Girl Scouts (aged 7-9) about basic engineering principles

Delta Delta Delta (Sorority)   **Ithaca, NY**
Social Chair   *April 2024 – May 2025*
- Communicate with members of Panhellenic and IFC organizations to plan collaborative events with 100+ people present

New York University   **New York, NY**
Research Scholar   *November 2020 – November 2022*
- Compared effects of classification methods, electrodes, and targeted and untargeted data acquisition methods on the accuracy of sEMG collection on transradial amputees for gesture prediction
- Extracted 16 features and tested 12 machine learning classification methods using MATLAB
- Found fine and weighted K-Nearest Neighbor to be the most accurate classification methods and no significant difference between electrode type or targeted and untargeted acquisition methods

SKILLS AND INTERESTS

Skills: Solidworks, Fusion360, manual mills/lathes, CNC mills/lathes, MATLAB, Python, Ansys FEA &Fluent, Microsoft Suite
Interests: Formula 1, hiking, cooking, reading, volleyball, skiing, spikeball, coloring, watercolor
Activities: Club Volleyball Team, Club Ski Team, Planned Parenthood Generation Action, FRC Robotics (Captain)