

Rachel Ortiz

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cell: 914.954.9904

EDUCATION

Cornell University, College of Engineering, Ithaca, NY

Bachelor of Science in Mechanical Engineering

Expected May 2027

Relevant Coursework: Introductory Fluid Mechanics (Fall 2025), System Dynamics (Fall 2025), Statics and Mechanics of Solids, Introduction to Computing: An Engineering Science Perspective, Differential Equations

Cumulative GPA: 3.67

SPECIALIZED SKILLS

Technical: Python, CAD (SolidWorks & Fusion), MATLAB, FEA (ANSYS), CAM (HSMWorks), Excel, Microsoft Office

Fabrication: Hand Tools, Power Tools, Manual Mill, Manual Lathe, CNC Mill, CNC Lathe

EXPERIENCE

Cornell Baja Racing, Ithaca, NY

October 2023 – Present

Transmission Subteam Lead

July 2025 - Present

- Designing custom Continuously Variable Transmission (CVT) for off-road racing vehicle in Baja SAE competition
- Responsible for all CVT tuning - iterating on springs, ramp profiles, etc., to maximize acceleration and low-end torque
- Responsible for overall system design and design and manufacturing of Primary Clutch
- Lead a 3-person team responsible for transmission components; co-lead driveline integration for vehicle

Drivetrain Subteam Member

October 2023 – July 2025

- Designed fully custom CVT Secondary Clutch: improved max torque capability, prevented car from getting stuck on obstacles due to belt slip, improved back-shifting, and decreased acceleration times by 0.2 seconds
- Won 1st Overall, 1st Hill Climb, 4th Acceleration, and 3rd Endurance
- Utilized FEA on CVT components to increase FOS while minimizing weight
- Iterated on helix cam profiles in conjunction with spring stiffnesses to change secondary response
- Wired hall effect sensors to engine/wheels and on-car DAQ to evaluate CVT shift curve against engine powerband
- Responsible for engine maintenance and repair: broke in and governed competition engines
- Utilized CAM software to machine custom parts on CNC mills/lathes; machined 50+ manual mill/lathe components
- Created drawings for in-house machining and utilized GD&T for outsourced parts

Manhattan College, *Summer Engineering Awareness Program Participant*, New York, NY

Summer 2022

- Participated in summer awareness programs for high school rising seniors and juniors
- Learned about chemical, civil, computer, electrical, environmental, and mechanical engineering, and physics through hands-on experiments in the laboratories
- Participated in engineering presentations from NYC-based engineers and firms

EMPLOYMENT

Wegmans, Ithaca, NY and Harrison, NY

April 2022 - Present

Grocery Associate

July 2022 - Present

- Maintain and stock grocery shelves, including storing and rotating products
- Assist in the cleanup and organization of the backroom, increasing the amount of space in the back and accuracy of item counts
- Address customer needs and questions and assist in training new hires

Cashier

April 2022 – July 2022

- Scan and bag customer purchases.
- Complete monetary transactions using cash, check, and credit/debit card

COMMUNITY INVOLVEMENT

Cornell Society of Women Engineers (SWE), Member

September 2023-Present

AWARDS

College Board National Hispanic Recognition Program; National Merit Commended Scholar