

Santino Macaggi

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Education

Purdue University, West Lafayette, IN

Dec 2026

GPA: 3.93

- Senior pursuing a Bachelor of Science in Mechanical Engineering
- Minor in Global Engineering Studies and Certificate in Entrepreneurship & Innovation
- Dean's List and Semester Honors (Jan 2023-Present)
- Extracurricular: GEARE, OPP, ASME, Pi Tau Sigma, Intramural Soccer Captain
- Study Abroad: Universidad Carlos III de Madrid (Spring 2025), Short Term: Florence, Italy & Nice,

Professional Experience

Thermo Fisher Scientific

Guilford, CT

Systems Integration & Test Engineering Intern

May 2026-Aug 2026

- Investigated pipette tip filter failures for the Ion Chef System through developing unique test build cases and analyzing reports using JMP, resulting in the conclusion of a two year long operation
- Evaluated the fluidic system issues of 15 newly developed Sequencer Systems using pressure sensor measurements and fault isolation analysis, reducing machine deployment deadlines by six months

Spectrum Plastics Group, A DuPont Business

Sandy, UT

Rapid Prototyping Engineer Intern

Jun 2025-Aug 2025

- Diagnosed wearable battery failures with root-cause analysis for an injection-molded, silicon-fused heart rate monitor and prototyped solutions in SolidWorks and additive manufacturing, cutting faults by 30%
- Supported manufacturing leads in both catheter production and extrusion cleanrooms to gain hands-on knowledge of catheter function and assembly, material behavior and cleanroom manufacturing processes

Purdue Ray Ewry Sports Engineering Center

West Lafayette, IN

Undergraduate Research Intern

Aug 2024-Dec 2024

- Developed a low-cost electrode that can be integrated into existing garments and compatible with heart rate monitors on the market through material conductivity testing and SNR analysis
- Performed comprehensive market and benchmark analysis to gain an understanding of potential materials and designs for high-performance, cost-efficient electrodes

GE Appliances, a Haier Company

Louisville, KY

▪ *New Product Innovation Co-op - Laundry*

Jun 2024-Aug 2024

- Generated and implemented a cost-effective UltraFresh Vent damper, improving moisture retention reduction by 25% and enhancing overall product durability and customer satisfaction
- Evaluated and compared the efficiency, reliability, and overall performance of AC versus DC drain pumps, leading to data-driven recommendations for optimal pump selection in new product designs

▪ *Material Cost Take Out Co-op - Dishwasher*

Jan 2024-May 2024

- Leveraged condensation testing on concession returns to diagnose material deficiencies and propose cost-effective design solutions, contributing to a 9% reduction in warranty claims
- Liaised between departments to implement a streamlined production process, resulting in a 4% decrease in dishwasher component waste

Leadership Experience

Purdue Office of Professional Practice (OPP)

West Lafayette, IN

Global Professional Practice in Engineering Mentor

Jan 2026-Dec 2026

- Advised over 50 first-year engineering students on career readiness through resume, LinkedIn and cover letter sessions, improving application materials ahead of internship recruiting cycles
- Supervised numerous engineering recruitment events, connecting students to more than 15 major companies for networking opportunities

Adjustable Oven Rack, GE Appliances Co-op Design Challenge

Jan 2024-May 2024

- Partnered with four other interdisciplinary co-ops to successfully produce an automated adjustable oven rack system that allows the user to change rack heights during cooking, leading to a patent submission
- Built and tested a working mechanism prototype, performing failure analysis and design iteration using prototyping equipment and presenting in a design showcase

Skills: SolidWorks, AutoCAD, MATLAB, ANSYS, Simulink, GD&T, Fusion360, Creo, CNC machining, 3D Printing (FDM, SLA), PDM, DFM, Native Spanish, Python, Public Speaking, Microsoft Office, Circuitry, Arduino