Jocelyn Pern

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EDUCATION

Worcester Polytechnic Institute (WPI), Worcester MA May 2026
Mechanical Engineering, 3.94/4.0 GPA

TECHNICAL SKILLS

SolidWorks (CSWA), Autodesk Inventor, Luminary Cloud, Computational Fluid Dynamics, Autodesk VaultMATLAB, JavaScript, Python, Microsoft Office, MongoDB, Siemens NX, Discord.js, VEX

EXPERIENCE

Design Engineer Intern, Watts Water Technologies May 2025 - Present
- Utilizing Luminary Cloud to develop computational fluid dynamics (CFD) models to calculate flow coefficients (Cv) for a variety of Watts' product lines to improve design specifications.
- Verifying and validating simulation Cv results with laboratory test results to develop a set of correction factors for future product designs and performance analyses.
- Exploring water-based energy scavenging technologies and compiled a report on potential product development plans.

LEAP Intern, NASA Lucy Mission L'SPACE Mission Concept Academy Jan 2025 - Present
- Providing mentorship to 800+ students in the NASA Lucy Mission L'SPACE Mission Concept Academy for critical aspects of mission formulation, with a specific focus on risk identification, mitigation, and management.
- Ensuring successful completion of the academy for students through their development of a mission concept from the Mission Concept Review to the Preliminary Design Review in the NASA Project Mission Lifecycle.

Project Manager, NASA L'SPACE Proposal Writing and Evaluation Experience Sep 2024 - Dec 2024
- Managed an interdisciplinary team of 10 students and organized the team's operations and procedures by undertaking several administrative tasks, such as; scheduling weekly meetings, leading task distribution and progress checks, and managing the team's document organization.
- Developed a novel solution to address a NASA pain point after researching existing state of the art technology.
- Co-authored a technical proposal in response to a request from NASA Marshall Space Flight Center.

Project Manager, NASA L'SPACE Mission Concept Academy - The Orion Alliance May 2024 - Sep 2024
- Lead an interdisciplinary team of 13 students through the development of a 200+ page Preliminary Design Review of a selected space mission presented by the NASA L'SPACE Program.
- Managed a team management system; scheduling team meetings, distributing tasks via Gantt charts and sign up sheets with 3 subteam leaders representing Science, Engineering, and Programmatics.
- Learned from NASA professionals and earned 7 skill mastery badges for the following topics: Teaming, Requirements, Project Management, Systems Topics, Risk Management, Heat Transfer, and Siemens NX.

STEAM Instructor, The Robo Hub May 2024 - Aug 2024
- Delivered captivating and interactive STEAM learning experiences to ~100 students.
- Designed mechanical housing for a marketing project involving the development of a talking robotic head powered by ChatGPT that was showcased to 100+ members of the community.

Head Coach and Mentor, Andover Youth Services Sept 2018 - Dec 2021
- Mentored and coached ~60 middle school students through the process of constructing a robot to compete in the FIRST Lego League competition.
- Empowered middle schoolers with the fundamentals of robot design, programming, project planning, and core values through a multitude of hands-on experiences.
- Collaborated with the robotics club to promote STEM to youth in the community, attracting 500+ students, families, STEM clubs, and STEM organizations to a community-wide event.

PROJECTS

Low Altitude Economy Service Cloud Platform for UAM in China, RobSense Aug 2024 - Dec 2024
- Worked in a group of 15 students from Worcester Polytechnic Institute and Hangzhou Dianzi University in an International Joint Practice project in Hangzhou, China, sponsored by RobSense Technology and Education.
- Developed a high level conceptual design and business plan for a low altitude service cloud platform.

Fruit Harvesting Robot Aug 2024 - Oct 2024
- Designed, built, and programmed a VEX robot to autonomously harvest, transport, and sort fruit objects using computer vision, PID control, and sensors.