JUAN MONTENEGRO

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EDUCATION

Bachelor of Science: Mechanical Engineering, University at Buffalo, The State University of New York, May 2024

- GPA: 3.91/4.0.

PROFESSIONAL EXPERIENCE

Teaching Assistant MAE 377: Product Design, University at Buffalo, Buffalo, NY: September 2023 - December 2023

- Elevated student proficiency in mechanical design, FEA simulations, GD&T, and SolidWorks modeling through three weekly laboratory sessions.
- Led six SolidWorks workshops, fostering a collaborative learning atmosphere and garnering positive feedback from students and faculty.

Manufacturing Engineering Internship, Tapecon Inc., Buffalo, NY: June 2023 - August 2023

- Researched three DC motor alternatives for tape dispensers, aiming to boost feeding speed by 25% while preserving torque and power efficiency.
- Redesigned DC motor mount using SolidWorks and rapid prototyping (SLA), to enhance its fitting, rigidity and reliability.
- Collaborated closely with two operators to implement a streamlined assembly and testing process for tape dispensers, by updating the instruction manual and reducing production time by around 15%.

Engineering Internship, Esacero SA, Quito, Ecuador: July 2022 - August 2022

- Collaborated in a team of five engineers in the design of a client's modern eco-friendly residence, utilizing TEKLA software for 3D modeling and optimizing material usage for sustainable construction.
- Facilitated regular communication between the design team and production plant, by writing weekly memos, reviewing AutoCAD blueprints and ensuring timely project delivery.

PROJECTS

Senior Project: Smal-Scale Robot For Hazardous Liquid Sampling: Arduino IDE

- Co-led a research and development project to design, test and fabricate a prototype of a small robot capable of collecting samples of chemical spills, leveraging Arduino IDE and microelectronics expertise of group members.
- Managed a $500 budget to ensure optimal resource utilization, meeting both critical design specifications and customer demands.

Bluetooth Controlled RC Car: Arduino IDE, SolidWorks, 3D printing

- Engineered and coded a smartphone-controlled RC Car with HC-05 Bluetooth module, Arduino IDE, and L293D drive shield for improved maneuverability.
- Incorporated two ultrasonic sensors for obstacle detection and avoidance, showcasing proficiency in sensor integration for autonomous navigation.

SKILLS

Technical Skills: 3D CAD Modeling using SolidWorks and Fusion360, with expertise in FEA and GD&T. Experience in programming with MATLAB, Python and Arduino IDE. Proficient in Word/Excel/Powerpoint.
Interpersonal skills: Teamwork, leadership, and proactive task management in projects.
Languages: Spanish (Native), English (Bilingual/Fluent), French (Proficient)**.**

HONORS AND AWARDS

- **Tau Beta Pi Member**, University at Buffalo Chapter, December 2022 - Present
- **Honors College Member**, University at Buffalo, February 2021 - Present
- **Honors Dean List**, University at Buffalo, May 2021 - Present
- **High-School Valedictorian**, Colegio Britanico Internacional, May 2020

EXTRACURRICULAR ACTIVITIES

- Society of Automotive Engineers: Member of Baja team.
- UB Aces Tennis Club: Member of Competitive Team.