Giovanni Cordova

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B.S. Mechanical Engineering (Honors) | University of New Mexico **GPA: 3.68** | Fall 2021 - Spring 2024

ENGINEERING EXPERIENCE

Project Manager & Lead Electrical Engineer | *UNM ASME National Competition Team* **January 2023 – May 2024**

- Led a team of 9 members in designing and building a fully 3D printed drone for the 2023 ASME eFX NW Wisconsin Tech Innovative Additive Manufacturing (IAM3D) Competition, securing 2nd place.
- Engineered and optimized the power distribution system, including a buck converter for the stepper motor and drive wheels, ensuring efficient and reliable performance.
- Directed and managed the development of an electrically propelled recumbent bicycle for the 2022 ASME e-Human Powered Vehicle Competition (e-HPVC), securing 12th place.

Mechanical Design Engineer | *UNM Senior Capstone Project* **August 2023 – May 2024**

- Collaborated as a key member of a five-person team to design a dynamic prosthetic interface (DPI) for competitive cycling, securing 1st Place in the UNM Engineering Expo IX Poster Competition.
- Led the CAD modeling efforts, creating three unique design alternatives and over eight design iterations based on team feedback and collaborative improvements.
- Conducted Finite Element Analyses (FEAs) to ensure design integrity and optimize performance.
- Assisted in performing fatigue testing, cycling the DPI through approximately 12,000 cycles, and processed data into analytical graphs using MATLAB.
- Developed and fabricated a prototype used by a US World Teams Para-triathlete, now undergoing the patenting process.

Undergraduate Robotics Researcher | *AFRL-UNM Agile Manufacturing Laboratory* **August 2022 – May 2024**

- Presented research to NSF and Department of Education; co-authored 'Autonomous Multi-Robot Servicing for Spacecraft Operation Extension' presented at IROS 2023.
- Built and tested a 1'x1'x1' smart satellite test bed and a 16'x6'x8' linear rail system for robotic satellite servicing tasks.
- Performed and validated system identification of variable friction in a torque-limiting coupling using VICON and Vernier sensors, MATLAB, and Simulink, with a 3D printed track and NEMA 34 stepper motor.

Lead Engineering Intern & Project Manager | *Focused Sun - Las Cruces, NM* **May 2021 – September 2021**

- Led and coordinated a team of 5 interns to develop a prototype 20' shipping container equipped with solar concentrators, thermal storage, and power generation systems.
- Manufactured and assembled key components using heavy-duty tools, including MIG welders and plasma torches.
- Coordinated and facilitated weekly progress updates with the founder and executive staff.
- Managed research and development (R&D), testing, material sourcing, and product development.

AWARDS & AFFILIATIONS

- **Student Council President**
  UNM School of Engineering (2023 - 2024)
- **Secretary**
  UNM AIAA (2022 - 2024)
- **NSF S-STEM Scholar**
  NSF S-STEM Program
- **Founder & President**
  UNM ASME (2021 - 2024)
- **Grand Challenges Scholar**
  UNM Grand Challenges Scholars Program
- **Undergraduate Research Scholar**
  NM Affiliation for Minority Participation
- **Joint Council Representative**
  UNM Associated Students (2023 - 2024)
- **McNair Scholar**
  UNM Ronald E. McNair Scholars Program
- **Outstanding Junior Award (2023)**
  UNM Department of Mechanical Engineering