

DANIEL JUAREZ

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EDUCATION

University of Maryland, Clark School of Engineering
Bachelor of Science, Mechanical Engineering

May 2026

Relevant Coursework

- Engineering design and CAD modeling; thermodynamics, heat transfer, and fluid mechanics; machine design; control and vibration systems; finite element analysis; electronics; and integrated process and product development with an emphasis on manufacturing methods and production design.

WORK EXPERIENCE

University of Maryland

College Park, MD *June 2023 – July 2023*

Intern

- Taught students the fundamentals of Revit, a 3D modeling software for civil engineering.
- Facilitated hands-on application of their designs to construct small-scale home frames, rafters, and joists.
- Guided students on aspects of professionalism like effective teamwork, leadership, and group management.

College Park, MD *June 2022 – July 2022*

Intern

- Led hands-on robotics instruction for students in a summer engineering program, introducing core robotics concepts, including mechanisms and motion transfer in real-world applications.
- Guided students in designing and assembling mechanical subsystems (conveyor belts, cranes) using VEX Robotics.
- Adapted instruction and project scope for students with varying levels of engineering experience, improving engagement, collaboration, and project outcomes.

Chris Nava & Sons Auto Repair

Berlin, MD *May 2021 – Aug 2021*

Intern

- Worked alongside an experienced mechanic, gaining practical exposure to mechanical systems.
- Operated and maintained a range of automotive tools and equipment, including vice clamps, impact wrenches and sockets, and electrical jump-start systems.
- Assisted in diagnosing mechanical issues and executing repairs, reinforcing core engineering principles related to force transmission, fasteners, and mechanical assemblies.

ACTIVITIES

Engineering Design, “Mars Rover” Team Member

August 2021–December 2021

- Led a dynamic team in translating designs into CAD for printing and prototyping purposes, while also contributing to the electronic and mechanical aspects of robotics projects.
- Aided in improving my leadership skills and project management throughout my professional journey.

Engineering on the Edge Of Space, “Ballon Payload Program” Mechanical Design Member

August 2024–March 2025

- Led the mechanical design team in brainstorming a new venting system to extend the weather balloon flight time.
- Sketched initial concepts in an engineering notebook, refining designs through iterative development.
- Modeled components using Fusion 360 and fabricated prototypes with a 3D printer.
- Developed skills in CAD modeling, rapid prototyping, problem-solving, and team collaboration.

Capstone, “STEM Learning Tools” Team Member

August 2025–January 2026

- Designed and prototyped two hands-on educational engineering tools aligned with high-school *Intro to Engineering* curricula, enabling students to explore mechanical advantage and electrical power generation using an alternator.
- Developed modular mechanical systems (pulleys, gears, levers) to demonstrate ideal versus real-world mechanical advantage, incorporating efficiency losses due to friction and geometry.
- Created CAD models and production drawings, fabricated multiple design iterations using additive manufacturing, and refined designs through testing and instructor feedback.
- Collaborated on project planning, requirements definition, and design reviews, strengthening technical communication, leadership, and project management skills.

SKILLS

Software & Programming: C++, MATLAB; Fusion 360, SolidWorks, AutoCAD, Revit; ANSYS; OrcaSlicer; Microsoft Office.

Languages: Spanish

Awards: Clark School of Engineering Excellence Award, Social/Environmental Design Impact Award, Linda Schmidt Innovation Award.