

DANIEL JUAREZ

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EDUCATION

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

May 2026

Relevant Coursework

- Mechanical design and CAD modeling; design for manufacturing and assembly; manufacturing processes and production design; machine design; robotics, controls, and electromechanical systems; finite element analysis; prototyping, testing, and integrated product development.

WORK EXPERIENCE

Academic Achievement Program

June 2023 – July 2023

Civil Intern

College Park, MD

- Taught 18 students the fundamentals of Revit, 3D modeling, and introductory civil engineering design
- Guided students in translating digital designs into small-scale structures incorporating 3 primary framing elements: frames, rafters, and joists.
- Facilitated hands-on team activities and coached students in communication, leadership, task delegation, and group management.

Robotics Intern

June 2022 – July 2022

College Park, MD

- Led hands-on robotics instruction for students, introducing mechanisms, motion transfer, and mechanical subsystem design using VEX Robotics.
- Guided students through the design, assembly, and troubleshooting of 2 VEX-based systems: conveyor belts and crane mechanisms.
- Adapted technical explanations for students with varying engineering experience, strengthening communication, leadership, and problem-solving skills.

Chris Nava & Sons Auto Repair

May 2021 – Aug 2021

Intern

Berlin, MD

- Gained practical exposure to mechanical systems, tools, fasteners, force transmission, repair workflows, and diagnostic troubleshooting in a shop environment.
- Assisted with hands-on tasks using common automotive tools while following technician direction, maintaining attention to detail, and working safely around equipment.

PROJECTS

Engineering Design, “Mars Rover” Team Member

August 2021 - December 2021

- Translated rover design concepts into CAD models for prototyping and assembly while supporting mechanical and electronic robotics development.
- Contributed to mechanical design, prototype troubleshooting, communication, and team coordination in a multidisciplinary engineering environment

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

August 2024 - March 2025

- Led the mechanical design of 1 autonomous helium-venting subsystem intended to regulate balloon altitude and extend flight duration.
- Developed sketches and Fusion 360 models, fabricated prototypes using additive manufacturing, and refined parts based on fit, sealing, and function testing

Capstone, STEM Learning Tools Team Member

August 2025-January 2026

- Contributed to the development and delivery of 5 reusable STEM learning kits spanning physics and engineering topics, including mechanical advantage and electricity generation
- Designed and prototyped modular engineering tools incorporating pulleys, gears, levers, and alternator-based power generation, conducting 72 load-test trials across 6 load levels to evaluate mechanical performance and consistency.
- Created CAD models, production drawings, 3D-printed parts, and assembly-ready hardware concepts focused on repeatability, durability, safety, and ease of use.
- Built and tested mechanical assemblies, then resolved issues involving friction, alignment, fit, geometry, hardware selection, and component durability.
- Collaborated on design reviews, prototype revisions, documentation, and final product delivery based on instructor and user feedback.

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.