

Andrés Gonzales

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Professional Summary

- Mechanical Engineer with a focus on materials science and energy and international experience in industrial supply chain optimization at BOSCH.
- Proven track record in managing 300+ technical components using SAP and Advanced Excel to streamline procurement and inventory accuracy.
- Skilled in Robotics (PID Controls), biomechanical testing, and material analysis.
- A bilingual communicator (English/Spanish) with cross-cultural engineering experience in the U.S. and Europe, adept at leading multidisciplinary teams to deliver high-precision engineering solutions.

Education

Northern Arizona University – Flagstaff, AZ

Fall 2021 – May 2026 (Grad Date)

- BS in Mechanical Engineering / BA of Interdisciplinary Global Languages, Spanish
- GPA: 3.45 – Dean's List 2022 & 2023
- GEM Fellowship Candidate: Developing a technical foundation for graduate research in materials science and energy

Universidad Carlos III de Madrid - International Exchange Modern Languages (Spanish)

Sept. 2024 – Jul. 2025

- Successfully completed a 6-month logistics/manufacturing internship at BOSCH, bridging European engineering standards with global automotive production
- Fundamental aerodynamics, modeling and optimizing aircraft airfoils with XFLR5, internship in logistics/manufacturing with BOSCH overseeing large database of parking assistance sensors for automobiles (TOYOTA, BMW, Volkswagen, etc.)

Work Experience

CAMINOS Scholar | Flagstaff, Arizona

September 2025 – Present

- Analyzing mineral composition datasets within the FEWSION framework to engineer sustainable access to Food, Energy, and Water (FEW) resources for the Monument Valley community
- Synthesizing environmental data into technical reports to guide infrastructure development and resource equity in underserved regions, and developing NACE competencies in professional learning regarding

Community Assistant | Northern Arizona University

February 2022 – Present

- Direct emergency response and facilities resolution for a 600+ student residential complex, coordinating cross-departmental efforts to ensure structural safety and security as well as mediation and cultural competency
- Mediate policy violations and safety compliance, balancing regulatory enforcement with empathetic communication to foster community standards

Engineering Logistics Intern | BOSCH (Madrid, Spain)

January – June 2025

- Orchestrated supply chain operations for 80+ precision sensors and 300+ mechanical components, managing complex multi-level Bill of Materials (BOM) structures for Tier-1 automotive clients (Toyota, BMW, Volkswagen)
- Managed the Start of Production (SOP) and manufacturing transfer of the MM7 sensor line; managed the transition of technical documentation and supply chain protocols from a satellite branch to the Madrid facility

Research and Projects

System Control Engineer & Web Developer | NAU Capstone

Fall 2025 - Present

- Leading system integration and controls design for two mobile robots using Raspberry Pi, sensor networks, and PID controls
- Developing embedded software/website for real-time actuation, data acquisition, and user interface in multiple subsystems
- Applied systems engineering methods ensuring reliability, fault tolerance, and performance in hardware/software interactions
- Designed CAD models, engineering drawings, and circuit schematics with circuit analysis and design with EE team

Independent Research Lead | NAU

Spring 2026

- Self-directed the formation of a customized research curriculum with faculty supervision to pursue advanced skills in Impulse Actuation and controls, an opportunity not offered through the standard undergraduate curriculum.
- Developed the project scope, objectives, and execution plan to ensure rigorous academic standards and a measurable outcome in a specialized technical domain.

Project Lead | RENEVATE™ Solar Tracker, NAU

Spring 2024

- Led development of an automated solar panel tracking concept using CAD modeling and mechanical system design
- Proposed scalable, low-cost renewable solution tailored to small-scale users for class project

Research Assistant | Biomechanics Lab, NAU

Spring 2023

- Supported testing of an ankle exoskeleton for patients with motor impairments
- Assisted in validating mechanical system performance through experimental methods and documenting test outcomes for cross-functional review

Technical Skills and Professional Affiliations

Programming and Data:

- C++, Python (PID controllers)
- SAP (supply chain & data management)
- GitHub, Linux, Docker
- Excel (Advanced), Microsoft products

Engineering Design:

- MATLAB / Simulink
- SolidWorks / AutoCAD
- ANSYS (FEA) / Simscape / XFLR5

Languages:

- English (C2) & Spanish (Native, C1)

Manufacturing:

- Machine Shop Operations (2025) – Advanced use of milling machines and lathes
- Material Testing, Circuit Design

Clubs and Orgs:

- American Society of Mechanical Engineers (ASME)
- Institute of Electrical and Electronics Engineers (IEEE)
- Society of Hispanic Professional Engineers (SHPE)