Nelda Hernandez

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Education

Major: Bachelor of Science in Aerospace Engineering   Expected Graduation: December 2026
University of Texas, Arlington   GPA: 3.49/4.0
Honors College

Relevant Coursework

Compressible Flow, Incompressible Aerodynamics, Aerospace Structural Statics, Aerospace Propulsion, Flight Performance

Awards

Lockheed Martin STEM Scholarship Recipient, Freshman Distinction Award at UTA

Professional Experience

Undergraduate Research Assistant, Aerodynamic Research Center at UT Arlington   *June 2025 – Present*
- Designed and 3D printed a kinematic laser mount using SolidWorks to aid with a Schlieren alignment process

Undergraduate Research Assistant, Bozlar Nanoscience Lab at UT Arlington   *January 2025 – May 2025*
- Modified a microfluidic channel design to improve flow distribution and modeled laminar flow using Ansys Fluent
- Assisted in fabricating microfluidic devices, including mold creation and electrode integration, for selective electrodeposition of rare earth metals
- Contributed to experiments focused on extracting transition metals from black mass using solvent mixtures followed by sonication treatment

Undergraduate Research Assistant, DUNE Project at UT Arlington   *January 2024 – May 2024*
- Upgraded motor system used for a field cage assembly table by modifying the assembly CAD model using SolidWorks
- Modified engineering drawings to include more specific tolerancing and compiled drawings to prepare for purchasing.

Undergraduate Research Assistant, Flowfield Imaging Lab at UT Austin   *May 2023 – August 2023*
- Operated infrared camera to image the thermal distribution of a heat tape wrapped on a hypersonic vehicle concept model and processed thermal data from thermistors and IR camera using MATLAB.
- Calibrated various thermistors by submerging them in water until room temperature was reached and comparing them to a high precision thermometer, used MATLAB to complete the calibration curve.
- Designed a CAD model for a pitot probe to be integrated into an ICP torch.

Undergraduate Research Assistant, Flowfield Imaging Lab at UT Austin   *June 2022 – August 2022*
- Aided with the testing of high temperature ablative material by monitoring temperature/voltage measurements and ICP torch position.
- Modified CAD models using SolidWorks for various ICP torch components.
- Adapted wind tunnel facility CAD model to be compatible with modern CAD programs.

Projects

Can Transfer Device   *March 2023 – May 2023*
- Collaborated with a team to design a motorized device that would move a 12 oz soda can across an 800 x 300 mm area.
- Designed and drafted engineering drawings of various components and performed motion analysis of the parts to ensure compatibility using SolidWorks.
- 3D-printed each component of the design learned how to add the proper support for the printed components using KISSlicer.
- Programmed servo motors used to rotate and retract an arm in an automized fashion using Arduino IDE.

Involvement

Society of Hispanic Professional Engineers, University of Texas at Arlington   *August 2023 – Present*
- Leveraged professional development, networking, and outreach events to promote diversity in STEM fields
- Cultivated professional skills through participation in the mentorSHPE program gaining and providing career guidance

Climbing Mavericks, University of Texas at Arlington   *August 2022 – December 2024*
- Served as vice president, organized fundraisers and outdoor trips and enforced climbing etiquette and safety on outdoor trips.
- Served as social media manager, maintained the club's Instagram page and facilitated outreach with other campus and external organizations.

MOVE Texas, University of Texas at Arlington   `   *January 2024 – May 2024*
- Started a campus chapter of MOVE, a nonpartisan organization, and promoted civic engagement, voter education, and advocacy through initiatives like voter registration tabling events
- Organized and hosted a Break Down the Ballot event to educate students on candidates and propositions in the Texas primaries.

Technical Skills

SolidWorks, MATLAB, 3D printing, C language, Ansys Fluent