ELEANOR A. RIGHTLEY

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EDUCATION

Master of Science — Estimated **May 2026**

New Mexico Institute of Mining and Technology

- Degree: Mechanical Engineering
- Specialization: Dynamic Mechatronic Systems and Controls
- GPA: 3.35

Bachelor of Science — **January 2024**

New Mexico Institute of Mining and Technology

- Degree: Mechanical Engineering
- GPA: 3.29

TECHNICAL EXPERIENCE

- Experience with the following **operating systems**:
    - Linux
    - Windows
- Experience with the following **programming languages**:
    - Python 3 (Proficient)
    - Arduino (Proficient)
    - Assembly
- Experience with the following **software packages**:
    - SolidWorks (CAD Modeling)
    - OnShape (CAD Modeling)
    - Inventor (CAD Modeling)
    - Fritzing (Circuit Modeling)
    - COMSOL Multiphysics (Finite Element Analysis)
    - MATLAB (Simulations)
    - LabVIEW
- Experience in developing and integrating the following types of **projects**:
    - Sensor technology applications
    - Microcontroller and embedded systems applications
    - Control system design and integration
    - Circuit design and analysis
    - PCB design and analysis
- **Technical writing** experience of reports, deliverables, and proposals
    - Instruction manuals for project deliverables
    - Internal review board (IRB) proposals
    - Project proposals
    - Project reports
- Experience as a **project coordinator** and **team leader**

PREVIOUS RESPONSIBILITIES

- Led a design team of junior and senior mechanical engineering students on a non-destructive evaluation and mechatronics design project under the supervision of an NMT faculty member and a LANL (Los Alamos National Laboratory) representative.
- Served as a mentor for AFRL (Air Force Research Laboratory) STEM Academy's Career STREAM mentorship summer program.
    - Responsible for preparing STEM trainings and assisting interns with completing STEM training.
    - Responsible for leading and mentoring interns on a design project incorporating CAD modeling and circuit integration.
- Responsible for teaching a variety of robotics topics for summer camps associated with UBMS NM (Upward Bound Math and Science New Mexico), NMT STEM Experience, and NMT Buzz Camp.
    - Taught binary and decimal number conversions, CAD modeling, Arduino programming, circuit building, and related topics.
- Developed a robust knowledge of ROS2 running on Ubuntu and simulations using Ignition Gazebo.
    - Wrote internal training materials to introduce and assist peers in developing their ROS2 knowledge, including hardware integration considerations.
- Responsible for developing sensor packages to be placed within jars, meant to measure the amount of humidity that penetrates through a Mason jar lid over extended periods of time, while the jar's contents are under vacuum.
- Responsible for creating a commercial-off-the-shelf climate chamber that could accurately record and maintain consistent humidity and temperature. Responsible for developing an induction ring power system to power jar sensor systems within the chamber for extended periods of up to a month.
- Assisted in developing a special topic program as part of the AFRL Career STREAM mentorship program to guide a group of undergraduate and graduate New Mexico Tech (NMT) students create a curriculum that introduces learners to the basic concepts of image processing and machine learning.
    - Responsible for organizing and meeting weekly with content developers throughout the process of creating the program's curriculum.
    - Responsible for meeting weekly with program supporters to provide updates and attain feedback on created content.
    - Responsible for providing content developers with the knowledge and experience needed to feel confident and prepared in developing content and activities.
- Worked as a professional development coordinator for the Central Region of NM for the NM STEM Innovation Network.
    - Responsible for curating professional development training to be used for year-round PD sessions of NM educators.
    - Responsible for coordinating and documenting professional development sessions held in central NM.

PUBLICATIONS

- *Developing a Robust Robotic Inspection System for Internal Inspections of Small Culverts - International Conference on Transportation and Development 2025*