Isabel Edney

Mechanical Engineer (Intern)
System Engineering And Laboratories (SEAL) Corporation

QUALIFICATIONS

Mechanical Engineer (Intern) • Supportive Forensic Investigations, Computer Aided Design (CAD), Calculus, Heat Transfer, Physics, Dynamics, Material Science, MATLAB

EDUCATION

University of Texas at Tyler, Texas Bachelor of Science, Mechanical Engineering, Minor in Business Administration/Law (Expected Graduate 2028)

ADDITIONAL EDUCATION

AOPA Air Institute, Commercial/Military Space Use (Nova Space Inc.), Corporate Finance Institute, Cryptography, FAA SAFETY, Geospatial Information Systems, NASA Open Science, National Association of State Boards of Accountancy, NAVTEX Operations and Maintenance for Ships, Marine Engineering Intro

EXPERIENCE

2025- present **Mechanical Engineer (Intern)**, System Engineering And Laboratories (SEAL) Corporation

2025 **Mission Assurance, Systems Analysis Engineer** (Workforce Development) NASA L'SPACE—Performed mission assurance and systems analysis, quantifying risks, verifying requirements and evaluating NASA Mission Concept Review Preliminary Design Review Process.

2024-2025 **Quantum Research Development**, IBM Quantum Program- Designed and simulated quantum circuits with IBM open-source quantum computing software framework and modeled basic algorithms in a cloud environment

Ground Flight Support, EAA Chapter 1078 & 1475—Assisted with aircraft ground operations, pre-flight safety checks and general flight support during aviation events.

CERTIFICATIONS

Federal Aviation Administration (FAA) Part 61 Pilot License

MEMBERSHIPS

AOPA, Aircraft Owners & Pilots Association
ASME, American Society of Mechanical Engineers
ASNE, American Society of Naval Engineers
EAA, Experimental Aircraft Association
NBAA, National Business Aviation Association
NFPA, National Fire Protection Association
NSPE, National Society of Professional Engineers

PROJECTS

Mars Rover Exploration Project (NASA)- Simulation of Mars exploration robotic system, focus on system design, risk assessment, and mission feasibility

Experimental Mechanical System- Design and fabrication of multi-component assembly gearbox

Artificial Intelligence in National Security (Special Competitive Studies Project, SCSP)- Exploring applications in artificial intelligence including intelligence analysis, autonomous systems, and cybersecurity defense.

RESEARCH

- *Mission Concept Review: Mars Cave Reconnaissance At the North Flank of Arsia Mons*. (Hilario, E., Edney, I., et al., 2025). Submitted to NASA L'SPACE; responsible for identification of technical and programmatic risks; presented risk trades to NASA L'SPACE review committee using likelihood-consequence matrices (Unpublished).
- *System Requirements Review: Mars Cave Reconnaissance At the North Flank of Arsia Mons*. (Hilario, E., Edney, I., et al., 2025). Submitted to NASA L'SPACE; responsible for subsystem risk analysis for Mechanical, Power, Command and Data Handling (CDH), Thermal, and Instrumentation systems using NASA requirements traceability matrices and qualitative risk assessment (Unpublished).
- *Mission Design Review: Mars Cave Reconnaissance At the North Flank of Arsia Mons.* (Hilario, E., Edney, I., et al., 2025). Submitted to NASA L'SPACE; responsible for assessing mission design risks, evaluating mitigation strategies and residual risk impacts to support design trades and operational feasibility. (Unpublished).
- *Preliminary Design Review Mars Cave Reconnaissance At the North Flank of Arsia Mons*. (Hilario, E., Edney, I., et al., 2025). Submitted to NASA L'SPACE; responsible for failure mode and effects analysis (FMEA) to evaluate failure impacts, criticality, and design readiness of final design. (Unpublished).