Isabel Edney

Engineering Intern
System Engineering And Laboratories (SEAL)

EDUCATION

B.S. Mechanical Engineering, *University of Texas*, Expected May 2028

Continuing Education, On-going

COURSEWORK

Computer Aided Design (CAD), Calculus, Heat Transfer, Physics, Statics, Stress & Strain Analysis, Materials Science, MATLAB

EXPERIENCE

- **Mechanical Engineering Intern**, *System Engineering And Laboratories (SEAL Corp)*- Supported forensic investigations by observing inspections, reviewing technical documents, and assisting engineers with case evaluations.

- **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 processes.

- **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 Chapter1078 & 1475*- Assisted with aircraft ground operations, pre-flight safety checks, and general flight support during aviation events.

LICENSES & CERTIFICATIONS

Federal Aviation Administration (FAA), Part 61 Pilot License

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, Intro of Marine Engineering

PROJECTS

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

Experimental Mechanical System- Design and fabrication of multicomponent 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.

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

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).