

Luke Van Leeuwen

Houston, TX • 281-223-6693 • lv35@rice.edu • [Linkedin](#) • [Personal Website & Portfolio](#)

EDUCATION

Rice University, Houston, TX

Expected May 2028

Bachelor of Science in Mechanical Engineering, Minor: *Engineering Leadership*

GPA: 3.86/4.0

EXPERIENCE

Mechanical Engineering Intern, Hanover, MD | Remote

May - August 2026 | August 2026 - Present

Oceaneering - Aerospace & Defense Technologies Division

- Designed subsea vehicle operator workstations and human interfaces, including display enclosures and 2 4-DOF articulating mounts in SolidWorks, satisfying anthropometric and subsystem layout constraints.
- Performed analyses in ANSYS to support verification of compliance with Navy shock requirements.
- Collaborated with electrical and auxiliary systems engineers through design reviews, presentations, and high-pressure testing to resolve system integration challenges and validate mission-critical hardware.
- Authored technical pressure test report documenting my analysis and verification of test results.

Autonomous Systems Researcher

Feb 2026 - Present

Control and Reliable Autonomy (CARA) Lab

- Developed an autonomous RC vehicle platform for learning-based control under vehicle slip conditions.
- Upgraded mounting systems and integrated sensing hardware for autonomous vehicle experiments.

Structures Team Lead

Aug. 2025 - Present

Rice Electric Vehicle Club (ASC)

- Designed carbon-fiber structural components for a high-voltage battery enclosure using SolidWorks, balancing stiffness, weight, and mechanical interface constraints.
- Overhauled component geometries to accommodate composite layup and assembly constraints while coordinating fabrication and design reviews within a 10-person subteam.

Materials Researcher

Feb. 2025 - April 2026

Ajayan Materials Science and Nanoengineering Research Group

- Produced monolayer MoS₂ samples using controlled exfoliation and handling processes.
- Correlated 200+ optical microscopy images with SEM data to identify regions of interest.

Technical Instructor

May - July 2025

Rice Center for Engineering Leadership

- Instructed 300+ high school students in Fusion 360 and OpenSim 4.5.
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HONORS & PUBLICATIONS

Rice University Representative - National Character & Leadership Symposium (NCLS)

Feb. 2026

- Appointed to represent Rice University at the *U.S. Air Force Academy's* annual leadership symposium.

Co-Author, *Quantum Dot Moiré from Crossed MoS₂ Nanoribbons* (Manuscript under peer review)

TECHNICAL SKILLS

- Engineering Software: SolidWorks, ANSYS, Fusion 360, MATLAB, Python
- Manufacturing: 3D Printing, CNC Machining, MIG Welding, PCB Design, Drawings, GD&T (ASME)