

Lucas Smith

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SUMMARY: Mechanical engineer with 7+ years of experience in the space and defense industries. A generalist with a systems-thinking approach, I focus on integrating automation and machine learning to solve engineering problems in new ways. Passionate about cross-disciplinary collaboration and bringing fresh solutions to traditional engineering challenges.

RELEVANT EXPERIENCE

Northrop Grumman – Space Sector

Remote Employee - Redondo Beach, CA

Mechanical Grounds Systems Engineering (MGSE) Mechanical Engineer

October 2019 – April 2024

- Earned company “Bravo” award for successfully and rapidly reworking test-critical hardware components, drastically reducing project downtime.
- Designed, validated, and oversaw fabrication of lifting braces for multi-billion-dollar space vehicle; braces are now the standard template across multiple space vehicles.
- Facilitated weekly interdisciplinary working groups, driving alignment between stakeholders and ensuring on-time delivery of mission-critical space hardware.
- Conducted operations studies to forecast hardware, facility, and personnel needs for the transportation, testing, and assembly of three distinct space vehicles.

Los Alamos National Laboratory – Weapons Division

Los Alamos, NM

Research and Development Engineer

May 2017 – September 2019

- Delivered comprehensive design support for various nuclear weapon components, collaborating with subject matter experts (SMEs). Maintained strict confidentiality, handling highly sensitive information with no security infractions.
- Utilized additive manufacturing techniques to create weapons system demonstrations for customers.

SKILLS

- **CAD and Drafting:** PTC Creo, Autodesk Fusion 360, Catia 3DEXperience, FEA (ANSYS).
- **Programming:** Python (experience with Tensorflow, PyTorch, Scikit-learn), R, MATLAB, Bash, Linux (Ubuntu), SQL, data pipelines, visualization, and scraping, ROS2 Humble, LLMs, APIs, cloud computing, and more.
- **Security Clearance:** SSBI completed April 2018, held DOE Q and higher clearances.
- **Misc:** Tableau, ASME Y14.5M-1994 drawing standards, GD&T, additive manufacturing.

PERSONAL PROJECTS

- Developing ROS2-based control systems for robotic applications, utilizing the strengths of LLMs to help tackle high dimensional control systems.
- Exploring AI applications in mechanical engineering, such as automated drawing checkers, model-to-isometric conversion tools, and automated BOM generation to reduce manual work and improve accuracy.
- Working on adding vision-based safety features to my woodshop, with real-time injury detection and sensor-based maintenance alerts to enhance workplace safety.

EDUCATION

University of Houston – College of Natural Sciences and Mathematics

Fall 2022 – Spring 2024

M.S. Statistics and Data Science | Completed May 2024 | **3.87 GPA**

- Studied statistical analysis and fundamentals of machine learning and data mining and handling techniques.
- Gained skills in coding, analysis, and automation.

Texas Tech University – Whitacre College of Engineering

Fall 2013 – Spring 2017

B.S. Mechanical Engineering | Minor in Mathematics | Completed May 2017 | **3.64 GPA**

- Graduated *cum laude* and with Honors from the university’s Honors College.

LEADERSHIP AND COMMUNICATION

- Piloted launch of new CAD tool, provided feedback to developers, and assisted coworkers learning the software.
- Led a cross-functional team of engineers, mentoring junior team members and fostering collaboration between departments to streamline design processes.

INTERESTS

Professional: systems thinking, applying new techniques to mechanical engineering.

Personal: woodworking, content creation, photography, programming, reading, hiking, snowboarding, and weightlifting.