THOMAS DUNN

Houston, TX | (832) 242-8600 | Tomdunn87@icloud.com
LinkedIn | Project files

Project files

EDUCATION

B.S. Mechanical Engineering | Texas Tech University
Lubbock, TX | **Expected December 2027** | GPA: 2.7

ENGINEERING EXPERIENCE

Pike Robotics | Mechanical Engineering Contractor
Houston, TX | **MAY 2026 – AUGUST 2026**

- Supported development of a storage-tank inspection robot for GPS-denied, potentially explosive environments and helped prepare the system for field deployment.
- Designed and retrofitted mechanical and electromechanical assemblies, including sensor and camera mounts, to fit an existing robot platform.
- Helped train new interns and created operating and repair instructions for robotic systems.

Agellus Robotics | Mechanical Engineering Intern
Houston, TX | **SUMMERS 2023 • 2024 • 2025**

- Fabricated mechanical prototypes and refined designs using feedback from testing and field operation.
- Contributed to a patent-pending robotic nondestructive testing (NDT) system deployed for commercial inspections.
- Demonstrated system capabilities and explained subsystem integration to engineering and executive audiences, including Chevron and Shell executives.

SELECTED TECHNICAL PROJECTS

Stealth UAV Concept | Capstone Project
Computational Engineering | **2026 – PRESENT**

- Developing a stealth UAV concept, supported by FieldForge, a custom analysis tool for comparing aircraft geometry across viewing angles, frequencies, polarizations, and material assumptions. Solver and visualization foundations are built; radar-cross-section validation remains in progress.

CMUT / PMUT Ultrasonic Workbench | Independent Project
NDT Visualization | **2025 – PRESENT**

- Created an ultrasonic modeling and visualization workbench for layered materials, time-of-flight and thickness estimates, signal gating, and A-, B-, and C-scan reconstruction.

Tank-Inspection Mission Planning | Independent Project
Robotics Controls | **2025 – PRESENT**

- Developed route-planning and operator-display concepts for tank inspections, including straight-line, tangent-arc, and lawnmower coverage, mission progress, and obstacle awareness.

ENGINEERING METHODS & TOOLS

Mechanical design and fabrication: Inventor, Fusion 360, AutoCAD, and Onshape for mechanical-system design and manufacturability. FDM printing, laser cutting, acrylic and sheet-metal fabrication, drilling, tapping, threaded inserts, fasteners, alignment fixtures, tolerance checks, and failure-driven redesign.

Testing and system integration: Mechanical assembly; sensor and electronics integration; fit and retention testing; bump tests; troubleshooting; failure and safety documentation; deployment checklists.

Software: Working knowledge of Python, NumPy, CuPy, and Tkinter for engineering calculations and visualization. Experience using AI-assisted coding tools, with manual review and testing of technical output.