

Travis A. Wessman Jr.

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Attleboro, MA

EDUCATION

- University of Massachusetts Dartmouth** North Dartmouth, MA
 - Bachelor of Science — Computer Science (Artificial Intelligence Concentration)* Expected May 2028
 - Relevant Courses:* Operating Systems, Object Oriented Programming, C Programming, Computing Systems, Data Structures

TECHNICAL EXPERIENCE

- New Bedford Research & Robotics (NBRR) × Sedna Robotics** New Bedford, MA
 - Software Engineering Intern — Courage Builder Blue Tech Pathways* Jun 2026 - Aug 2026
 - Multi-Source Data Pipeline:** Built a Python pipeline unifying NOAA BlueTopo rasters, Teledyne multibeam surveys, and live Ping2 sonar from an autonomous surface vehicle into a single deviation model spanning roughly 2M depth points. Handled CRS reprojection (WGS84 to UTM 19N) with pyproj and rasterio, cKDTree nearest-neighbor sampling, and tidal reduction of sonar depths to the MLLW datum via the NOAA CO-OPS API.
 - Anomaly Detection & Findings:** Measured a 0.73 m mean depth offset between public NOAA charts and high-resolution survey data using gridded z-score thresholding; exported flagged anomalies as AO-ready point clouds for hydrographic review.
 - Interface & Export Tooling:** Shipped a Streamlit application with pydeck map layers supporting point queries, area queries, and deviation grids, plus export controls producing AO-ready .xyz and CSV point clouds with JSON metadata sidecars for downstream survey review.
 - LLM Assistant & Architecture:** Built a natural-language assistant answering depth and deviation queries by dispatching to deterministic pipeline tools rather than generating values; organized modular ingest, analysis, and assistant layers behind a pytest suite covering CRS, deviation, tidal, and export logic.
- Wessman Systems** Attleboro, MA
 - Freelance Software Developer — Client: Alternative Heating Solutions* Jan 2026 - Present
 - Missed-Call Lead Intake System:** Designed and deployed a Flask and SQLite service that captures missed calls through Telnex Call Control webhooks, records voicemail, parses inbound SMS into structured name, address, and service fields, auto-replies to the customer with a callback window, and texts the owner a notification with a link to the recording.
 - Dashboard & Production Deployment:** Built a mobile-friendly lead dashboard with click-to-call links, status tracking, and notes over a rolling 72-hour window; structured the app with an application factory, blueprint routing, and a service layer, with signed webhook verification and Gunicorn serving in production. Live and handling the business's inbound calls since March 2026.

PROJECTS

- The Bam Ghost Protocol — AUV Simulation — MATLAB, Simulink:** Developed and pitched an autonomous underwater vehicle simulation for ghost gear detection, built over 72 hours with MathWorks mentorship. **Award: 1st Place — Courage Builder x UMass Dartmouth Blue Tech Externship.** (Mar 2026)
- Multi-Agent Research Assistant — Databricks, LangChain, Hugging Face, RAG:** Co-developed and deployed a research assistant automating literature review across arXiv and PubMed, collaborating with the Databricks team on system architecture. Personally set up the project repository and Databricks workspace with Git integration, and built the multi-agent coordination layer handling paper analysis, citation extraction, and citation-grounded brief generation over LangChain, Hugging Face models, and vector search on Delta Lake, MLflow, and Unity Catalog. (Oct 2025)
- NutriGrove — Campus Nutrition Platform — Python, Firebase, APIs:** Co-developed an automated system aggregating dining and nutritional data from multiple university sources into a centralized cloud database. Personally owned the Firebase infrastructure, Python web scraping, and recommendation logic. **Award: 2nd Place — Best Use of AI to Validate User Interest, YCONIC 2025 Hackathon.** (Jan 2025)

TECHNICAL SKILLS

- Languages** Python, SQL, C, MATLAB
- AI & ML** LLMs, RAG pipelines, tool-calling agents, multi-agent systems, LangChain, Hugging Face, FAISS, Ollama
- Data & Geospatial** NumPy, Pandas, SciPy, rasterio, pyproj, shapely, KDTree indexing, ETL, web scraping
- Databases** SQL, SQLite, InfluxDB, Firebase, Delta Lake
- Infrastructure** Git, Flask, Gunicorn, AWS S3 (boto3), Databricks, MLflow, Streamlit, pydeck, pytest, REST APIs, webhooks

ADDITIONAL EXPERIENCE

- University of Massachusetts Dartmouth** North Dartmouth, MA
 - Student IT Technician* Oct 2024 - Present
 - Technical Support:** Diagnose and resolve hardware, software, and account issues for students and faculty across a large university community, applying systematic troubleshooting and follow-up through resolution.
 - Systems & Device Setup:** Support enterprise software across Windows and macOS; configure and deploy workstations, laptops, and peripherals, including device imaging and technical documentation.