

Garrett Gruss

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SUMMARY

Fullstack AI/ML Technical Lead with 2+ years building production GenAI systems at scale. Led multiple engineering teams developing LLM-powered applications using Langchain, RAG architectures, and graph databases.

WORK EXPERIENCE

AI/ML Technical Lead — Systems Engineer, Lockheed Martin PAC-3 Apr 2022 - Present

- **Leading PAC-3 Sustainment's first production AI/ML system** – Leading team building Apache Airflow-based data pipeline with LLM-powered feature extraction and classification of failure reports. Engineered arena-based multi-model validation and audit accuracy scoring to mitigate hallucinations. Architected SQLAlchemy ORM with PostgreSQL + LakeFS data warehouse and Pandas + Pandera ETL workflows. System enables predictive analysis of field failures to depot scrap operations for \$9.8B of fielded equipment.
- **Deployed hybrid RAG search system for failure report analysis** – Architected Weaviate-based keyword and vector embedding search combining intent-based and ID-specific retrieval. Integrated with Open-WebUI chatbot interface supporting MCP protocol, replacing legacy folder-based report storage with intelligent search capabilities.
- **Engineered SysML GenAI code generation platform** – Architected and led 4-engineer team developing ArchImedes suite (Java/Python microservices) that auto-generates CAMEO system architecture and requirements documents using Langchain agents with function calling.
- **Managed \$10M+ program risk portfolio** – Oversaw 54 task orders across PAC-3 Sustainment Operations. Mitigated \$5M+ in technical and schedule risks through data-driven analysis.

Industry 4.0 Deployment Engineer, Raytheon Intelligence and Space Oct 2020 - Apr 2022

- **Deployed smart manufacturing systems** – Built and validated Ignition SCADA solutions in live production environments to enable Industry 4.0 transformation capabilities across manufacturing operations.

Mechanical Engineer, Raytheon Intelligence and Space Jun 2019 - Oct 2020

- **Performed Materials Testing** – Performed destructive material testing and developed and maintained materials database.

Research Technician, Texas Tech University Aug 2017 - May 2019

- **Shape Memory Effect** – Performed testing on the shape memory effect of polymers and presented at Boston 2018 Conference for undergraduate research.

EDUCATION

Expected Dec 2026	Master's in Software Engineering at Southern Methodist University	Dallas, TX
Apr 2019	Bachelor of Science in Mechanical Engineering, Minor in Mathematics at Texas Tech University	Lubbock, TX