

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