

JUSTIN “J.ROD” RODEN

AI Solutions Architect | Production ML Engineer | Industrial AI Specialist

Dallas–Fort Worth, TX | Remote / Hybrid

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PROFESSIONAL SUMMARY

AI Solutions Architect and Production ML Engineer with **17+ years** delivering mission-critical systems across aerospace, construction, and heavy industry. Proven record deploying AI into **real-world operations** — not demos — including production RAG systems, predictive maintenance platforms, enterprise NLP pipelines, and AI-driven fleet optimization across **\$485M+** industrial portfolios.

Bridges the gap between AI engineering and field operations. Combines full-stack development, MLOps, and domain expertise with leadership in high-stakes environments (aerospace operations, international mining, heavy equipment fleets). Trusted to deploy systems that operate **24/7** in harsh conditions and scale across enterprise environments.

CORE EXPERTISE

AI & ML Engineering

- LLM Integration & RAG (LangChain, LlamaIndex, OpenAI, Claude)
- Fine-tuning & Prompt Engineering
- Multi-Agent Orchestration
- Time-Series Forecasting & Predictive Maintenance
- Computer Vision for Industrial Automation

Production Systems & Architecture

- MLOps pipelines, CI/CD
- Monitoring & model drift detection
- API architecture & system integration
- Enterprise application modernization

Data & Analytics

- PostgreSQL, MongoDB, Vector DBs
- Real-time ingestion pipelines
- Power BI / Tableau
- ETL, telemetry processing

Industrial & Domain Systems

- J1939 CAN bus & telematics
- IoT & sensor fusion
- ERP integrations (Dynamics, RentalMan)
- Mission-critical operations

TECHNICAL STACK

AI / ML: Python, PyTorch, TensorFlow, Hugging Face, LangChain, LlamalIndex

Engineering: .NET (C#), FastAPI, Flask, Node.js, Next.js, React

Data: PostgreSQL, MongoDB, Pinecone, Chroma, Weaviate, Pandas, NumPy

Cloud / DevOps: Docker, Kubernetes, GitHub Actions, AWS, Azure, Vercel

Visualization: Power BI, Tableau

PROFESSIONAL EXPERIENCE

LEAD AI SOLUTIONS ENGINEER | Independent Consultant

2023–Present | Remote

Delivering production AI systems for enterprise and mid-market clients. Specialized in moving AI from prototype to deployment inside regulated, operational environments.

Highlights:

- Delivered **12+ production systems and enterprise POCs** in rapid deployment cycles.
- Built LLM workflows handling **10K+ monthly enterprise queries**.
- Designed real-time analytics systems improving equipment fault detection **35%**.
- Implemented predictive maintenance reducing downtime by **30%**.
- Deployed semantic search across **100,000+ enterprise documents**.
- Integrated AI systems with ERP platforms for automated workflows.

AI INTEGRATION CONSULTANT | H&E Equipment Services

2020–2023 | Dallas / Remote

Led automation initiatives across **40+ locations** supporting a **\$485M asset portfolio**.

Achievements:

- Developed utilization forecasting models reducing idle equipment **30%**.
- Deployed predictive maintenance systems improving uptime **20%**.
- Built computer vision inspection platforms cutting inspection time **75%**.
- Automated reporting systems using Python-based pipelines.
- Designed APIs connecting legacy systems to modern AI platforms.

TECHNICAL SOLUTIONS ENGINEER | Mader Group

2017–2020 | USA & South America

Built analytics and automation solutions for mining and heavy equipment operations across international markets.

Highlights:

- Implemented failure prediction modeling using MTBF analysis.
 - Built cross-border supply chain data systems.
 - Automated forecasting using ML time-series models.
 - Delivered **\$350K+ in cost savings** via scheduling intelligence.
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SYSTEMS INTEGRATION ENGINEER | Aerospace Programs

2013–2017 | Texas Facilities

Supported test operations and tooling for aerospace launch environments.

Key Impact:

- Built real-time monitoring dashboards.
 - Created compliance tracking systems.
 - Automated documentation pipelines, reducing manual labor **40%**.
 - Delivered software supporting mission-critical hardware test systems.
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PRODUCTION SYSTEMS (SELECTED)

HeavyOps AI Platform

Fleet optimization + predictive analytics for heavy equipment fleets.

- Tracks **\$485M+ in assets**
- Processes live telemetry

- Predicts utilization and maintenance
 - 40+ locations supported nationwide
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Estimator-AI v5

AI automation for construction and design workflows.

- Multi-agent orchestration system
 - RAG-powered spec retrieval
 - Active in field usage via Discord automation
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ContractGuard Pro

Automated contract risk analyzer.

- NLP-based clause detection
 - Compliance identification at **94% accuracy**
 - Used by procurement teams
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EDUCATION

MBA — Baylor University (2023)

Focus: Systems Integration, Financial Modeling, M&A

BBA — University of Wyoming

Operations & Business Management
