JARED WILLEY

Lead AI / Cloud Engineer

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Lead AI Engineer with a Master's in AI/ML, architecting predictive maintenance solutions by analyzing 20+ years of historical USMC aviation data to optimize fleet readiness. Full-stack development (Azure, Next.js, PyTorch) spanning defense systems to N-body astrophysical simulations.

WORK EXPERIENCE

Lead AI / Cloud Engineer

ASR International | March 2025 – Present

- Leading development of AI-powered predictive maintenance applications for 2nd MAW Marine Corps aviation, transforming reactive maintenance into proactive scheduling
- Architecting and implementing reinforcement learning algorithms to optimize maintenance scheduling, achieving 36% improvement in prediction accuracy over traditional methodologies
- Spearheading full-stack development using Next.js, TypeScript, and Azure cloud services, owning end-to-end technical design for enterprise-grade reliability and MAW-wide deployment
- Designing and deploying real-time data visualization dashboards for monitoring aviation maintenance metrics, supply chain status, and operational readiness
- Sole technical advisor briefing General and Colonel-level leadership on predictive maintenance capabilities, translating complex ML outputs into actionable readiness decisions for 2nd MAW command

Senior Capstone Project — Epic Games Partnership

NC State University | 2023

- Developed a plugin for Unreal Engine in collaboration with Epic Games engineers, enhancing developer workflows by 50%
- Optimized game performance with C++ debugging, increasing framerates by 30%
- Led Agile sprints, coordinating feature development and delivery across a 5-member team

PROJECTS

Advanced JSON Comparator | 2025

- Built a developer tool to analyze and visualize differences between JSON arrays with smart key selection using Next.js and TypeScript

P9 Detector | 2025

- Trained a Set Transformer (PyTorch) to predict Planet Nine from TNO orbital data using ISAB attention for O(nm) scaling
- Built parallel N-body simulation pipeline (REBOUND) to generate synthetic solar system training data

EDUCATION

Master of Science in Computer Science (AI/ML)

Western Governors University, 2025

Bachelor of Science in Computer Science

Minor in Business Administration

North Carolina State University, 2023

CERTIFICATIONS

✓ Secret Security Clearance
✓ CompTIA Security+
✓ AWS Machine Learning Specialist

TECHNICAL SKILLS

Programming

Python, TypeScript, JavaScript, C#, .NET, Blazor, Java, C++, GDScript

AI/ML & Cloud

Azure (AI Services, ML Studio), AWS (SageMaker, Lambda), PyTorch, Set Transformers, Scientific Computing (REBOUND), LLMs, Reinforcement Learning

Frameworks & Tools

Next.js, React, Git, Docker, Parquet, Hydra, Power Platform, SQL Server, Proxmox

Methodologies

Agile, Scrum, API Development, N-body Simulation, Military Systems

KEY ACHIEVEMENTS

36% improvement in prediction accuracy

30% framerate optimization

20+ years of maintenance data analyzed

DOMAIN EXPERTISE

► Military Aviation Systems (NALCOMIS, DECKPLATE)
► Predictive Maintenance & Reliability Engineering
► DoD Enterprise Network Development (NIPRNet)
► Real-time Operational Intelligence
► Predictive Analytics for Aviation Readiness