KEVIN WILLIAMS

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TECHNICAL SKILLS

AI/ML Systems: PyTorch, TensorFlow, LLMs, RAG, Transformers, Hugging Face, AI Certification & Governance, Autonomous System Verification, Data Intelligence Pipelines

Engineering: Python, SQL, JavaScript, Django, Flutter, MySQL, Git, AWS, LangChain, Vector Databases, MBSE

Methods: Black Belt Six Sigma, Requirements Traceability, Systems Lifecycle (V&V), CAD

PROFESSIONAL COMPETENCIES

AI Systems Architecture • Cross-functional Technical Leadership • Mission-Critical System Design • High-Stakes Decision Making

EXPERIENCE

Software Engineer — *Barrios Technology (Feb 2025 – Present)*

- Architected and deployed Cortex, a SQL-backed enterprise data platform that replaced multiple legacy SharePoint workflows with a unified system for operational data management, business intelligence extraction, and cross-team reporting
- Designed dynamic schema architecture (Entity-Attribute-Value pattern) enabling non-technical users to define custom data structures without code changes—reducing IT backlog by ~40%
- Integrated intelligent automation pipelines that transform unstructured inputs into validated, structured data—improving downstream analytics accuracy by ~30%
- Developed cross-platform Flutter application automating report generation, eliminating ~20 hours/week of manual formatting across multiple teams

AI System Engineer — Human Space Flight — *NASA Johnson Space Center (Oct 2023 – Feb 2025)*

- Pioneered first-generation certification framework for AI on human-rated spacecraft, establishing safety and reliability standards now guiding AI deployment across 2+ Artemis mission elements
- Led requirements traceability analysis mapping AI-specific requirements to NASA software engineering standards (NPR 7150.2), ensuring verifiable compliance pathways for autonomous systems
- Established governance frameworks for AI integration into crewed missions, balancing autonomous capability with crew safety requirements across multiple commercial programs
- Executed full systems engineering lifecycle—requirements development through verification testing—for mission-critical systems using MBSE methodologies
- Delivered systems models for commercial crew programs ensuring NASA MBSE guideline compliance and enhancing mission readiness

Engineering Specialist — *Ford Motor Company (Jun 2022 – Sep 2023)*

- Led eMotor materials laboratory team of 20, establishing testing protocols and quality standards for electrified powertrain programs
- Developed and deployed deep learning models for automated quality decisions, reducing manual inspection time by ~90% and earning Ford Technical Excellence Award
- Created automation scripts replacing hundreds of manual engineering workflows, improving testing accuracy across eMotor validation programs
- Coordinated with tier suppliers and cross-functional teams to resolve integration challenges in electrification vehicle development

Research Assistant — *University of Michigan (Sep 2019 – Jun 2022)*

- Developed novel electrochemical detection method for Δ9-THC (1–20 μM) achieving 0.13 μM limit of detection with $R^2 = 0.995$—third-lowest detection limit among comparable SPCE devices
- Published peer-reviewed findings demonstrating viability for in-field law enforcement applications

Materials & Chemical Technician — *Hyundai-Kia, General Motors, Quaker Chemicals (2012 – 2017)*

Metallurgical analysis, material validation, and quality testing across automotive OEMs. Established GM Flint Engine metallurgical lab; led supplier corrective actions at Hyundai-Kia; trained personnel on QA protocols.

EDUCATION

M.S. in Artificial Intelligence — University of Michigan (Expected May 2026)

B.S. in Mechanical Engineering — University of Michigan (2021)

PUBLICATIONS

Differential pulsed voltammetry of Δ9-THC on disposable screen-printed carbon electrodes: A potential in-field method to detect Δ9-THC in saliva (2023)

AWARDS

Ford Technical Excellence: Implementation of Deep Learning Model Technology for Quality Decisions

NASA Silver Bear: Certification of Artificial Intelligence on Human-Rated Space Flight Systems