ERIC HOLT

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PROFESSIONAL SUMMARY

Software and AI developer with hands-on experience building LLM applications, RAG pipelines, reinforcement learning agents, and full-stack web applications. Strong background in diagnostics and embedded systems from seven years supporting emergency vehicle platforms. Skilled in Python, JavaScript, machine learning workflows, and modern development tools.

TECHNICAL SKILLS

Programming: Python (PCEP Certified), JavaScript, HTML/CSS
AI/ML Frameworks: PyTorch, TensorFlow, Transformers, Scikit-Learn
Data Tools: NumPy, Pandas
ML Concepts: RAG, LLM fine-tuning, reinforcement learning, model evaluation
Web Development: React, Flask, REST APIs
Tools: Git, Docker, VS Code, Jupyter, PlatformIO
Embedded & Systems: CAN bus, PLC basics, IoT/Embedded Diagnostics

EDUCATION

DeVry University – Bachelor of Science in Computer Information Systems (Expected 2028)
Specialization: Programming, Machine Learning & Design Technology

CERTIFICATIONS & ACCOMPLISHMENTS

PCEP – Certified Python Programmer, 2025
Dean's List, DeVry University, 2025
Web Scraping with Python, DeVry University, 2025
Vibe Coding with AI, DeVry University, 2025
National Society of Leadership and Success – Inducted Member

TECHNICAL PROJECTS

AI Tutor - TinyLlama + LoRA (Python, LangGraph, FastAPI, Docker, Azure)

- Built a lightweight AI tutoring backend using a quantized TinyLlama model with a custom LoRA fine-tuned for beginner-level programming instruction.
- Implemented a LangGraph-based orchestration pipeline supporting base vs fine-tuned model comparison and structured tutoring prompts.

- Deployed as a Dockerized FastAPI service on Azure Container Apps with autoscaling-to-zero and CPU-optimized inference via llama.cpp.

Transport LLM-WebGPU (React, Python, RAG, Local Corpus)

- Developed a fully client-side LLM accelerated with WebGPU, enabling on-device inference with zero server dependency.
- Implemented vector search, embeddings, and prompt-augmentation for a custom RAG pipeline.
- Built a React interface controlling weight loading, retrieval visualization, and model inference.

Reinforcement Learning Warehouse Bot (Python, PyTorch, Gymnasium)

- Designed and trained a reinforcement learning agent for warehouse navigation and pick-and-place optimization.
- Implemented custom reward shaping and DQN/PPO training loops.
- Improved simulated route efficiency and reduced idle movement through iterative policy tuning.

Weather Web App (Python, Flask, Bootstrap, Chart.js)

- Developed a responsive weather dashboard delivering real-time and forecast data.
- Implemented chart visualizations, search history, and error handling.
- Deployed continuously on Render for live public access.

Image Classifier Web App (JavaScript, TensorFlow.js)

- Built a browser-based image classifier running entirely on the client.
- Created an interactive UI and deployed for 24/7 availability.
- Demonstrated understanding of ML inference in web environments.

EXPERIENCE

Technical Diagnostics & Systems Specialist – Emergency Vehicle Platforms (2017–2024)

City of Coppell • City of Grapevine • Siddons-Martin Emergency Group
• Performed advanced diagnostics on CAN bus, PLC, and embedded control systems for emergency vehicles.
• Identified system-level failures, interpreted wiring diagrams, and documented resolutions.
• Collaborated with engineering teams to address firmware, electrical, and mechanical issues.
• Trained operators and technicians on troubleshooting procedures and system functionality.