Peyton Tolbert
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PROFESSIONAL SUMMARY

5+ years delivering AI solutions and secure databases with **$600m+** market impact. Led end-to-end development integrating generative models/NLP along with cybersecurity rigor (STIG/NIST compliance, threat detection, PostgreSQL migrations). I provide a blend of technical mastery with nuclear engineering experience as a veteran and startup leader. Certified CompTIA Security+ CE.

SKILLS

Python | SQL | Golang | VBA | Rust | Lua | PostgreSQL | JS/TS | PyTorch | Cloudflare | LLMs | Kubernetes | Vision Transformer | RL (DQN, PPO) | Swarms | Training | Datasets | Supabase | GitHub | CI/CD | Tableau | REST API | AWS/Azure/GCP | Docker

Founding Engineer (Freelancer) - Remote   *June 2025-Present*

- Led the end-to-end architecture, development, and deployment of a model context protocol (**MCP**) tool search and orchestration platform, designed for scalable inference workflows and efficient toolchain integration.
- Designed and deployed high-performance microservices in **Rust** for **Cloudflare Workers**, enabling low-latency API responses and robust serverless execution
- Developed secure cloud services to orchestrate communication between Cloudflare D1 SQL databases and distributed vector stores for large-scale semantic search operations.
- Implemented Retrieval-Augmented Generation (**RAG**) pipelines using custom embedding and indexing strategies over datasets
- Engineered real-time context retrieval and tool invocation interfaces, supporting advanced prompt engineering over extensible tool registries.
- Generated and maintained large-scale datasets of tool metadata, configurations, and invocation logs to support LLM tool interactions modeling and analysis.
- Delivered production infrastructure for AI-native developer interfaces, with integration-ready endpoints and compatibility with vectorized protocol specifications.

Lead AI Developer, The Swarms Corporation – Palo Alto, CA (Remote)   *Oct 2024-Apr 2025*

- Led the development and deployment of an AI media content generation platform (createnow) from conception to deployment for a global audience.
- Created event-driven CI/CD directly integrated with GitHub actions and build automation/deployment change management through Vercel and GCP.
- Built scalable cloud architecture on **AWS/GCP** for real-time **LLM** inference, orchestrated with Terraform/Kubernetes scripts.
- Architected the infrastructure for Swarms, a **multi-agent collaboration** marketplace, driving **$1B+** in crypto-trading volume.
- Led R&D initiatives in simulation environments for **Transformer**-based multi-agent collaboration, publishing open source frameworks for automated AI workflows.
- Curated and released open source datasets containing thousands of AI media content generation examples through images, video, and music. Managed the repository containing datasets and custom trained models.
- Met with investors, consumers, and industry leaders to align company direction with market demands and latest technical breakthroughs. Served as key liaison between technology teams and stakeholders, translating investor insights into actionable development milestones.

Cybersecurity Database Developer, Tetrad Digital Integrity, LLC – Norfolk, VA (Remote)   *Mar 2023-Jan 2025*

- Sole developer in the migration of Microsoft Access databases to **PostgreSQL**, enabling a scalable, high-performance data system for enterprise-level military operations.
- Regularly translated functional requirements into automated database solutions, enabling seamless data ingestion and integration from diverse sources to satisfy customer demand.
- Managed a policy repository housing cybersecurity SOPs, incident reports, and scanning results; created dashboards and models using **Tableau** to provide critical insights.
- Established and managed database versioning protocols with archiving procedures, maintaining documentation and change logs for data recovery.
- Delivered using Agile methodology, managing tasks through FlankSpeed custom ticketing system while collaborating with cross-functional teams on military database initiatives.
- Built and maintained Extract, Transform, and Load (ETL) pipelines to support real-time data operations for enterprise clients.
- Delivered custom query support and insights based on user-defined functional requirements, enhancing operational efficiency and decision-making.

Engineering Technician 3, Huntington Ingalls Industries - Newport News, VA   *Mar 2021-May 2023*

- Worked with cross-disciplinary teams to manage technical engineering projects, ensuring high-quality product delivery and stakeholder satisfaction.
- Administered and tracked over 5,000 work orders in a dedicated database, providing real-time insights into project status and progress
- Managed communication with client to ensure work completion in a satisfactory and timely manner.

- Maintained critical documentation for nuclear submarine overhauls, ensuring compliance with safety and authorization procedures.

Nuclear Machinist's Mate, US Navy - Norfolk, VA   *Apr 2015-Apr 2018*
- Worked in both team and independent environments to complete over 1500 hours of rigid, procedurally oriented maintenance on Nuclear powered systems.
- Graduated Naval Nuclear Power School & Naval Nuclear Prototype Training Unit. Qualified Nuclear Operator.

PROJECTS
Drone Swarm HRTX (https://github.com/peytontolbert/swarm-drone-hrtx)
Drone swarm simulation environment operated through multi-input, multi-output, early exit, multi modality self-attention model.

Swarms Cloud (https://github.com/The-Swarm-Corporation/swarms-cloud)
Deploy enterprise, cloud scalable environment for agents.

F5-TTS FASTAPI (https://github.com/peytontolbert/f5tts-fastapi)
A FastAPI service for text-to-speech synthesis using the F5-TTS model. Includes authentication token.

Swarms Dex (https://github.com/The-Swarm-Corporation/swarms-dex)
A decentralized exchange platform for creating and trading Swarms tokens with automated market making capabilities.

Engineering Configuration Management System (https://github.com/peytontolbert/ECMSv2)
Manage and track engineering maintenance tag outs.

Custom QwenVL Model (https://huggingface.co/AgoraX/Lumixion-e1-70k-fncall-qlora)
Finetuned QwenVL on 70k custom examples of visual function calling data