Mitchell Schauer

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Professional Profile

Systems Integration Architect specializing in modernizing industrial and production environments through secure infrastructure, edge intelligence, and AI-driven automation. Proven leader in defense and aerospace, architecting scalable production ecosystems, redesigning workflows, and integrating legacy systems into resilient, data-driven enterprise networks.

Experience

Lockheed Martin Liverpool, NY
Manufacturing Systems Engineer *Aug. 2024 – Present*

- Architected enterprise-level production ecosystems and secure VLAN/SubLAN network architectures expanding automation across production systems, ensuring data isolation, and low-latency cross-domain communication.
- Engineered flow-line for the TPY program, successfully reducing lead time from 2 years to 2 months .
- Designed and implemented PLC-to-IoT conversion projects to onboard legacy systems to modern IoT networks; piloted AI inspection systems, site-wide calibration monitoring systems and automated torque tool integrations.
- Led facility transformations across 6 programs and 3 buildings, redesigning production floors for mixed-product, high-velocity R&D and manufacturing, while providing insight helping to secure multi-billion-dollar contracts.

Collins Aerospace Cedar Rapids, IA
Manufacturing Electrical Engineer *Jan. 2023 – Jan. 2024*

- Directed manufacturing for a facility accommodating four programs and +100 personnel. Hosted Lean Six Sigma events and integrated pick-and-place machines into production lines, achieving a 300% reduction in cycle time
- Modernized legacy Excel reporting into real-time Tableau orchestration and networked visual management displays across the production floor, while spearheading expanding metrics from local servers to Azure Cloud.
- Engineered self-correcting, auto-calibration fluid systems utilizing regression analysis on 3-axis plotters.
- Increased test yield by identifying critical failures in circuit test systems, resulting in a +90% first-pass yield.

Advanced Systems & AI Infrastructure Projects

Local & Privacy-First, Self-sustaining Infrastructure | *Proxmox, Linux, Docker, GitLab, Samba 2022 – Present*

- Designed and built a mobile data center independent of the power grid, incorporating high-availability network stacks with multi-WAN bonding/failover, reverse proxies, and automated TLS for zero-trust, encrypted access, and developed a mobile homelab within it capable of offline AI inference and SBC IoT device monitoring.
- Developed a bacterial, natural-gas harvesting energy production system that digests food waste, converting the exothermic reaction and produced gas into usable energy generation.

Vision & Audtory Systems | Software Defined Radio | Advanced Materials Research *2023 – Present*

- Developed a proof-of-concept facial and vocal recognition and object-tracking overlay system for secure identification and interaction, linked to an LLM-based conversational RAG memory for personalized live assistance
- Built and programmed SDR-based FPV drones for low-latency telemetry and aerial mapping, integrating custom firmware and real-time video streaming on a stereoscopic augmented-vision system.
- Curated equipment management for multiple makerspaces and material research labs, purchasing and enhancing closed-source and custom machines through management software, hardware improvements, and custom G-code.
- Created prototype designs for chemical light lithography of opaque micro electronic, resistive heaters, wireless charging pads, and antennas optimized for specialized applications.

Technical Skills

Networking: VLAN architecture, OPNsense, UniFi networking, Proxmox clustering, Azure, Zero-trust (SDN), SDR
CAD Skills: 3-D Meshing, Lattice Stress, Compliant mechanisms, Parametric formulas, Rendering, Technical drawings
Materials/Fabrication: CNC, Additive manufacturing, Prototype development, Material selection & Behavior analysis
Automation: PLC to IoT streams, REST API development, MCP Tools, Git-based operations, Containerization
AI/Intelligent Systems: Edge LLM Inference, Computer Vision, Smart Utility Monitoring, PyTorch Model Training
Data Analysis & Visualization: Pandas, NumPy, Matplotlib/Seaborn, SQL analytics, Tableau/Power BI
Security & DevOps: Zero-trust architecture, TLS encryption, Git pipelines, Vulnerability scanning, CT hardening
Languages: Python, SQL, C++, Java, Bash/Shell Scripting

Education

Rochester Institute of Technology (RIT) Rochester, NY
Bachelor of Science in Biomedical Engineering