

MICHAEL P. DELUCIA

IT Operations & Security Engineer

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PROFESSIONAL SUMMARY

IT Operations Engineer and security-minded technologist who bridges infrastructure, automation, AI, and software development. CompTIA A+ / Security+ certified with a software engineering background, I design end-to-end device provisioning systems, automate IT workflows, and build production-grade applications across Rust, Kotlin, Python, and JavaScript. I run and optimize local large language models — engineering prompts, multi-agent workflows, and retrieval pipelines — to power private, zero-cost automation, and I've used LLMs to reverse-engineer legacy Windows software and kernel-level drivers to run on Arm64. Equally comfortable hardening endpoints and Active Directory, building out a server room, or shipping a multi-module mobile app — I bring a builder's mindset to keeping environments secure, consistent, and efficient.

SKILLS

IT Operations & Endpoint: Windows Deployment (MDT, Windows PE, PSD), Imaging, Cloning & Sysprep, Endpoint Management, Microsoft Intune / Mobile Device Management (MDM) — Windows + Android zero-touch enrollment, Active Directory, Microsoft 365, Google Workspace, ConnectWise (Manage/Automate/Control), ScreenConnect, Help Desk / Service Desk Support, Server-Room Build-Out & Cabling.

AI / LLM Engineering: Local / on-prem LLM deployment & optimization (LM Studio, Qwen3 MoE), prompt & context engineering, multi-agent orchestration & task routing, retrieval-augmented generation (SQLite/FTS5), AI-assisted reverse engineering & x86-to-Arm64 porting, agentic developer tooling, n8n workflow automation.

Security: Network Security, Firewalls/VPN, Incident Response, Phishing & Ransomware Mitigation, Vulnerability Assessment, Endpoint & Security-Posture Hardening.

Development & Automation: Rust, Kotlin, Python, JavaScript, React, Node.js/Express, PowerShell, RESTful APIs, Jetpack Compose, Git/GitHub Actions (CI/CD).

Platforms: Windows, Linux, macOS, Android, Virtualization & VMs, PC Hardware Repair.

PROFESSIONAL EXPERIENCE

IT Operations Engineer | DigitalOptometrics

Mar 2025 – Present

- Led an **AI-assisted reverse-engineering effort to run legacy Windows medical software on ARM64** — using LLM-driven binary analysis to port undocumented x86 applications to Arm architecture, keeping business-critical clinical tools alive on modern hardware.
- Under deadline pressure, **reverse-engineered legacy kernel-level Windows drivers with LLM-assisted analysis** to get them functioning on ARM64 — restoring compatibility between legacy clinical hardware and modern Arm-based systems.
- Migrated the company's device deployment onto **PowerShell Deployment (PSD), custom-modified to image Windows on Arm** — standing up the deployment server, MDT task sequences, and driver injection for consistent zero-touch provisioning across sites (see Projects).
- Designed and built a **custom Windows PE recovery environment triggered remotely with zero end-user interaction** — resolving any OS corruption or failure completely hands-off by reverting the device to a sysprepped golden image of its as-shipped state, eliminating on-site visits.
- Deployed and provisioned **Android device fleets via Intune/MDM** — zero-touch enrollment, app deployment, and security-policy enforcement.
- Helped **lead the rollout of POS tablet systems for a large client** — coordinating hardware provisioning, configuration, and deployment.
- Helped design and build out the **server-room infrastructure** from the ground up — racking, cabling, and structured cable management optimized for accessibility and uptime.
- Manage employee onboarding/offboarding across Google Workspace, Microsoft 365, and Active Directory, and administer the endpoint fleet through ConnectWise and ScreenConnect.

IT Support Specialist | Platinum Business Corp

Sep 2019 – Mar 2025

West Babylon, NY

- Installed, configured, and maintained point-of-sale (POS) terminals across 100+ retail locations, ensuring reliable transactions and a 95% customer satisfaction rate.

- Supported 100+ merchant clients via remote and on-site service, resolving 90% of inquiries on first contact and tracking interactions through CRM software.
- Built a structured merchant onboarding program (training on POS usage and maintenance) that improved satisfaction and reduced support call volume ~20% over six months.
- Configured and deployed network solutions for 50+ clients using remote diagnostics, improving client network uptime ~25%.

Technology Intern | Generations Beyond

Jul 2019 – Dec 2019

Long Island, NY

- Contributed to client website redesigns applying SEO best practices and user feedback, increasing site engagement and search rankings.
- Assisted in developing digital content and social media campaign strategies through targeted audience analysis.

TECHNICAL PROJECTS

PSD ARM64 Deployment Architecture | Fork of PowerShell Deployment (Friends of MDT)

PowerShell • MDT • ARM64

- Forked the open-source **PowerShell Deployment (PSD)** framework and re-architected it from the ground up to image **ARM64 Windows devices via MDT task sequences** — capability the upstream project did not support.
- Stood up the deployment server and rebuilt the end-to-end pipeline (boot media, task sequences, driver injection) to zero-touch provision ARM hardware at scale — a complete overhaul of the deployment architecture.

Auto Exporter — Automated Medical Video Pipeline

File Watcher • FFmpeg

- Built a background watcher service that detects new **slit-lamp exam videos** dropped into a capture folder, then automatically compresses and exports them to a destination folder for server upload — fully hands-off for clinical staff.
- Standardized output and shrank medical video file sizes for reliable network transfer, eliminating a manual, error-prone compression step.

Local-First AI Agent Workstation

LLMs • Python • Automation

- Deployed and tuned a **local LLM (Qwen3 35B Mixture-of-Experts) via LM Studio** for private, zero-cost inference, applying prompt & context engineering across code, edits, and document generation.
- Architected a **multi-agent orchestration workflow** (OpenCode, Kilo, Claude Code) with intelligent task routing and a RAG memory layer on SQLite/FTS5; integrated n8n for event-driven automation.
- Engineered structured system prompts, tool schemas, and per-task context routing so local models deliver reliable, repeatable results — cutting cloud-AI spend to zero for daily engineering work.

SidRid — Windows SID Modification Tool

Windows Internals

- Engineered an experimental utility to change a Windows machine's **Security Identifier (SID) without sysprep** — to my knowledge the only free tool that does so — enabling device cloning and re-identification outside the standard sysprep workflow.

Ghost Server — Game Backend Reverse Engineering & Emulation

Rust

- Reverse-engineered a console game's proprietary online backend and built a **private server in Rust**, performing PowerPC binary analysis (Capstone) and authoring runtime patches to redirect traffic.
- Implemented custom DNS/HTTP(S) services, DTLS handshakes, and protobuf wire-format handling, driven by live packet capture and log analysis.

CERTIFICATIONS

CompTIA A+ — CompTIA (2024) **CompTIA Security+** — CompTIA (2024) **Google Cybersecurity Professional** — Google (2024)

EDUCATION

Software Engineering Immersive (Fellow) | General Assembly NYC

2022

- Completed a full-time, 12-week software engineering immersive: full-stack development with JavaScript, Node.js, React, and Express; RESTful APIs, responsive UIs, secure authentication, and Agile workflows.

High School Diploma | West Islip High School

2018