

Jacob Clark

PROFESSIONAL SUMMARY

Full-stack software developer and automation specialist with over a year of experience leading industrial automation projects and developing custom database-backed web applications. Proficient in designing scalable systems, building real-time process control, and ensuring safety and reliability through robust logic and intuitive interfaces.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, C#, Python, Java, Lua, SQL, C++, XML, OptoScript

Frameworks & Libraries: JavaFX, WPF, XAML, Tailwind CSS, Node.js, Next.js

Databases & Data Modeling: PostgreSQL, MySQL, SQLite, ERD, UML

Tools & Platforms: Visual Studio, VS Code, Android Studio, Docker, Bash, Git, Node-RED

Cloud & DevOps: Microsoft Azure

Operating Systems: Windows, Linux

Practices: OOP, Debugging, Algorithms, Agile, Scrum, SDLC

Other: IoT, Industrial IoT, Unity 3D, PAC Control

PROJECTS

Full-Stack Process Dashboard – Carbon Black Global

- Built a web interface with Next.js 15, React, and TypeScript for viewing and searching batch data
- Backend includes a type-safe DAO layer and time-integrity-safe query logic
- Charted real-time values, system states, and summarized logs using PostgreSQL

Node-RED Logging System – Carbon Black Global

- Created a UDP-driven real-time data logger that filters invalid analog values
- Mapped sensor and alarm data to process instances and gracefully handled system interrupts

PROFESSIONAL EXPERIENCE

Software Developer – Carbon Black Global | Dunlap, TN | February 2024 – Present

- Sole developer responsible for full lifecycle of industrial automation and data systems
- Rewrote PAC Control logic for automation, added Command State architecture, removed legacy bloat

- Implemented PostgreSQL schema for batching, sensors, and logging across the process
- Integrated Node-RED and real-time UDP logging for traceability and safety
- Developed safety interlocks (e.g., hydraulic pressure logic, airflow controls, alarm systems)
- Replaced PAC Control timers with custom scalable virtual timers using int32 arrays

EDUCATION

Bachelor of Science in Software Development – Western Governors University – Dec 2022

CERTIFICATIONS

- Foundational C# with Microsoft – September 2023
- Microsoft Certified: Azure Fundamentals – April 2023
- Unity Certified User: Programmer – May 2021