Muhammad Moiz Bukhari

Software and Systems Engineer · Embedded Test Automation · Medical Device V&V
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Experience

Software Engineer May 2026 – Oct 2026
TWM Wholesale *Stockton, CA*

- Built an e-commerce platform from scratch as the sole engineer, including user authentication, server-side data encryption, and a SQL database for a **40,000+ SKU** catalog.
- Saved **3–4 hours/day** of manual data entry by writing and deploying **10+ Python** automation scripts for inventory, procurement, and supplier workflows.
- Raised automation uptime by tracing recurring failures through log analysis and rebuilding the scripts as fault-tolerant, self-recovering pipelines.

Systems Engineering Co-op Jan 2025 – Aug 2025
Abbott Laboratories (Class III Medical Devices) *Pleasanton, CA*

- Eliminated manual overnight test monitoring by designing a **5-fixture** power automation system, pairing Arduino C/C++ firmware with Python test sequencing to run **72-hour** unattended endurance cycles.
- Cut rework across **5 fixture revisions** by structuring firmware into separate sensor, relay control, and communication modules that could be changed and retested independently.
- Isolated intermittent failures across **4+ parallel** fixture configurations by building Python logging and anomaly-detection tooling, separating firmware, wiring, and sensor faults with hardware and quality engineers.
- Verified secure BLE communication between a monitor and its adapter on a **Class III cardiac device program** by executing formal V&V protocols across multiple pairing scenarios, with results traced to system requirements.
- Executed thermal testing protocols step by step, recording results precisely to support regulatory and quality requirements.
- Released **4 test fixtures** into V&V and Long-Term Testing by authoring IQ/OQ validation packages, preventive-maintenance procedures, and drawings as change orders in **Windchill PLM** under FDA 21 CFR 820 and ISO 13485.
- Brought fixture hardware from schematic to production-ready by soldering, crimping, and wiring relay boards, sensors, and displays, verifying each build with continuity and voltage checks.
- Supported **3 summative human factors studies** at 3 sites by coordinating equipment shipping and setup and troubleshooting device and A/V systems live during sessions.

Projects

End-to-End Encrypted Messenger (team project) React Native/Expo, Go, TypeScript

- Built secure real-time messaging on the Signal Protocol (X3DH and Double Ratchet) with WebSocket delivery, auto-reconnect, and safety-number verification so users could confirm contact identity.

Skills

Core Languages: Python, C/C++, C#, SQL

Additional Languages: Java, JavaScript, TypeScript, Go, PHP

Embedded & Systems: Arduino, relay control, sensors, BLE, firmware architecture, serial debugging, schematics and wiring diagrams

Verification & Quality: V&V protocols, requirements traceability, IQ/OQ, thermal testing, root-cause analysis, FDA 21 CFR 820, ISO 13485, Good Documentation Practice

Tools: Git, Windchill PLM, VMware, Microsoft Excel, Word, Teams; Linux (Ubuntu, Kali; coursework)

Certification: Certified Scrum Master (CSM)

Education

B.S. Computer Science, Honors – University of the Pacific, Stockton, CA Aug 2021 – Dec 2025
GPA 3.83 · Dean's List, all semesters