Nguyen Huu Kien

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Profile

Test Software Development Engineer with 7+ years of experience in hardware-software integration testing and manufacturing automation. Experienced in building comprehensive automated test systems (RF, functional, network), integrating cloud tools (GCP, Docker), and scripting (Python, Rust, Go) to optimize production efficiency and engineering infrastructure.

Skills

Core Competencies

Test Automation Architecture · NPI Test Engineering · Embedded Firmware Development · Mentoring & Team Leadership · CI/CD for Hardware · Manufacturing Yield Optimization · Industrial Automation (PLC) · AI/ML Integration · Hardware-Software Integration Testing · Cross-functional Technical Collaboration

Programming Languages

Proficient: Python, C++
Experienced: Rust, Go, PowerShell, Shell, Batchfile
Familiar: C#, Lua, Nix, PLC languages (Structured Text, Function Block Diagram)

Platforms & Tools

OS: Linux, Windows
Cloud & DevOps: GCP, Docker, GitHub Actions, Fly.io, Synology
Data & Docs: SQLite, Jupyter Notebook, Quarto, Markdown, Mermaid Chart
Design & Simulation: FreeCAD, KiCad, OpenFOAM
System Config: Nix (NixOS)

Soft Skills

Effective communication and collaboration in multicultural engineering environments.
Self-motivated learner who rapidly adapts to new technologies and workflows.
Systematic problem-solving and analytical thinking across hardware and software domains.

Languages

English: Working proficiency; capable of reading technical documentation and handling professional correspondence.
Chinese: Basic working proficiency; able to handle simple work-related communication.

Experience

Test Software Development Engineer [CyberTAN - Foxconn Technology] [Bac Ninh, Vietnam] [08/2024–Present]

Validated firmware for new product releases, designing test plans and sample programs for NPI execution.
Built automated test systems for manufacturing (RF, functional, network), helping minimize manual testing overhead.
Developed real-time production yield monitoring tools to improve data management and first-pass yield (FPY) visibility.
Automated MAC address provisioning across production lines, significantly reducing manual entry errors.

Application Software Manager [ITC Technology JSC] [Bac Ninh, Vietnam] [08/2019 – 08/2024]

Mentored and trained new team members.
Performed migration of the company website to a Rust-based platform, optimizing load speed and maintainability.
Developed and optimized firmware for industrial controllers and HVAC systems, improving operational stability and system efficiency.
Designed and deployed internal software tools to digitize and optimize cross-departmental workflows.
Contributed to firmware and software development for fire alarm systems and integrated Building Management Systems (BMS).
Built custom automation pipelines (Python, PowerShell) to enhance process accuracy and traceability.

Key Projects

Automated NPI Test Platform — CyberTAN, Foxconn Consolidated multiple fragmented test softwares for various product lines into a single, unified software solution. The system automatically categorizes and transmits detailed test logs—organized by test session and Serial Number (SN)—to a centralized server, streamlining data management and ensuring full traceability during the NPI process.

Production Yield Monitoring System — CyberTAN, Foxconn Architected a real-time yield monitoring dashboard that aggregated live test data from multiple production lines. This provided instant visibility into first-pass yield (FPY) trends, enabling engineers to make data-driven decisions on rework processes and quality control adjustments.

Test Room Monitoring & Reporting System — ITC Technology JSC Architected and developed a premium full-stack monitoring system for industrial test rooms using Rust (Dioxus). Integrated real-time data collection from Carel c.pCO controllers via asynchronous background tasks (Tokio), persisting high-frequency sensor data in PostgreSQL. Built an automated PDF reporting engine and a sophisticated web dashboard, significantly improving data accuracy and reporting efficiency for climate control testing.

Education

B.Eng. in Electronics and Telecommunications [*School of Electronics and Telecommunications (SET), Hanoi University of Science and Technology (HUST)*] [Hanoi, Vietnam] [08/2015 – 08/2020]

Interests

Participating in team-based computer games
Exploring new places through travel, walking, and hiking
Designing and building DIY gadgets