

VIGNESH S

Software Engineer

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🌐 Portfolio

PROFESSIONAL SUMMARY

Results-driven Software Engineer with 3 years of experience in industrial automation and embedded systems development. Skilled in **C++**, **MFC**, **WIN32API**, and **EPKS (Experion Process Knowledge System)** with a proven ability to deliver mission-critical control system solutions. Improved developer productivity by **50 percent** through automation tools and scripting. Experienced in the full **Software Development Life Cycle (SDLC)**, including requirements analysis, system design, implementation, testing, and documentation. Strong domain knowledge in process control systems, UI development, and real-time industrial-grade software, including **UOC and ACE controller** integration.

TECHNICAL SKILLS

Programming Languages and Technologies: C++, WIN32API, Batch Script, MFC, QT, QML

Development Tools and Frameworks: Visual Studio, ClearCase, Coverity, Inno Setup Compiler, MFC, QT Framework

Platforms and Systems: Windows Development, Experion Process Knowledge System, Physical and Virtual UOC, ACE Simulation

Agile Practices: Unit Testing, Integration Testing, System Testing, Code Review, Quality Assurance, Debugging

KEY ACHIEVEMENTS

- **Process Automation Excellence:** Developed comprehensive internal workflow automation solutions, reducing manual workload by 50 percent using custom batch scripting, Python programming, and C++ development.
- **UI Development:** Designed a dynamic Motor block user interface using the MFC framework, significantly improving configuration usability and user experience.
- **System Recovery and Maintenance:** Successfully recovered Unit Operations Controller (UOC) from failure states during development cycles, ensuring continuous system availability and minimizing downtime.
- **System Configuration Management:** Configured and optimized Experion Process Knowledge System (EPKS) environments for multiple controller models including Model 530 and Model 520, ensuring optimal functionality, performance, and reliability.
- **Legacy System Migration:** Successfully converted legacy Graphical User Interface (GUI) tools to lightweight Command Line Interface (CLI) applications, improving system performance, maintainability, and resource efficiency.
- **Deployment Optimization:** Streamlined software deployment processes using Inno Setup Compiler for faster and error-free releases, reducing deployment time and improving reliability.

PROFESSIONAL EXPERIENCE

Software Engineer

January 2023 - Present

Utthunga Technologies

EPKS Control Builder Block Development

Project Focus: Software development and implementation of control system blocks for process automation, enhancing functionality and efficiency of the Experion Process Knowledge System (EPKS) through specialized industrial control blocks.

Responsibilities and Achievements:

- Collaborated with cross-functional teams to perform requirements analysis for functional and technical specifications of industrial control blocks.

- Designed and developed software blocks following industry coding standards, best practices, and Software Development Life Cycle (SDLC) methodologies.
- Executed comprehensive unit testing, integration testing, system testing, and bug resolution using debugging tools and quality assurance protocols.
- Authored technical documentation and software documentation, and participated in peer code reviews for quality control and knowledge sharing.
- **Enhanced developer productivity by 50 percent** through custom automation tools for XML generation, code templates, and workflow optimization.
- Implemented user interface solutions using Microsoft Foundation Classes (MFC) framework for Motor block configuration and system management.
- Developed custom error handling systems and description management functionality within the Experion Process Knowledge System (EPKS) station.
- Automated repetitive block development tasks through custom scripting solutions to handle operations including ACE Controller management and system maintenance.
- Configured Experion Process Knowledge System (EPKS) environments and managed Unit Operations Controller (UOC) recovery processes for continuous system availability.
- Developed WIN32 Application Programming Interface (API) solutions for block extensions and system integration.
- Performed code reviews and maintained code quality standards through static analysis tools and best practices.
- Implemented version control workflows using ClearCase for source code management and team collaboration.

Technology Stack: C++, XML, Microsoft Foundation Classes (MFC), Batch Scripting, EPKS Configuration Studio, ClearCase Version Control, Visual Basic for Applications (VBA), Python, WIN32 Application Programming Interface (API), Inno Setup Compiler, Firmware Management Tools

Controllers: Physical Unit Operations Controller (UOC), Virtual Unit Operations Controller (vUOC), Simulation ACE

NOJA DCM Project

Project Focus: Worked on NOJA Power next-generation Device Configuration Management (DCM) software, designed to support Relay 4 protection modules and streamline configuration workflows through modern user interface and user experience design and direct device interaction.

Responsibilities and Achievements:

- Identified and resolved critical bugs and defects, improving system performance and reliability.
- Migrated legacy Graphical User Interface (GUI) tools to Command Line Interface (CLI) applications for improved maintainability and resource efficiency.
- Enhanced application performance through code optimization and refactoring.
- Collaborated with quality assurance team to ensure comprehensive testing coverage.

Technology Stack: QT Framework, QML

EDUCATION

Bachelor of Computer Applications (BCA)

Bharathidasan University

Status: Currently pursuing (Second year completed)

Expected Graduation: 2026

2024 - Present

Diploma in Computer Engineering (DCE)

DOTe - Ramakrishna Mission Polytechnic College

Graduated: 2022

Achievement: 92 percent

CERTIFICATIONS

- Programming Foundations: Conducting Code Reviews - LinkedIn Learning - September 2025
- C++ Essential Training - LinkedIn Learning - September 2025
- Windows Programming using Visual C++ and MFC - Udemy - August 2025
- Agile Software Development - LinkedIn Learning and CompTIA - September 2025

- Agile Software Development - LinkedIn Learning and PMI REP - September 2025

ADDITIONAL INFORMATION

Professional Experience: 3 years in Industrial Software Development

Domain Expertise: Industrial Automation, Control Systems, Embedded Systems, Process Automation, Real-Time Systems, Process Control

Core Competencies: Rapid Learning, Automation-Driven Development, User Interface Design, Productivity Enhancement, Problem-Solving, Team Collaboration, Project Management, Technical Documentation, Code Review

Languages: Tamil (Native), English (Professional Working Proficiency)