

# VIGNESH S

## Software Engineer

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## PROFESSIONAL SUMMARY

Results-driven Software Engineer with 2.5+ 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% through automation tools and scripting. Experienced in the full software development lifecycle (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/ACE controller integration.

## TECHNICAL SKILLS

### Programming Languages & Technologies

**Primary Skills:** C++, WIN32API, Batch Script

**Secondary Skills:** QT/QML, HTML, CSS, MySQL, XML

**Familiar:** Python, VBA

### Development Tools & Frameworks

**IDE & Tools:** Visual Studio, ClearCase, Coverity Static Analysis, Inno Setup Compiler

**Frameworks:** Microsoft Foundation Classes (MFC), QT Framework

### Platforms & Systems

**Platforms :** Windows Development, EPKS

**Controllers :** Physical UOC, vUOC, Simulation ACE

**Databases :** MySQL

**Agile Development:** Unit Testing, Integration Testing, Code Review, Quality Assurance

## KEY ACHIEVEMENTS

- **Process Automation Excellence:** Developed comprehensive internal workflow automation solutions, reducing manual workload by 50% using custom batch scripting, Python programming, and C++ development.
- **UI Development:** Designed a dynamic Motor block UI using the MFC framework, significantly improving configuration usability.
- **System Recovery & Maintenance:** Successfully recovered UOC controllers from failure states during development cycles, ensuring continuous system availability.
- **System Configuration Management:** Configured and optimized Experion Process Knowledge System (EPKS) environments for multiple controller models (530, 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, error-free releases.

## PROFESSIONAL EXPERIENCE

### Software Engineer

Utthunga Technologies | 2022 - Present (2.5 years)

#### 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.

### Key Responsibilities & 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, software documentation, and participated in peer code reviews for quality control and knowledge sharing.
- **Enhanced developer productivity by 50%** 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.
- Implemented WIN32 Application Programming Interface (API) solutions for block extensions and system integration.

**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's next-generation Device Configuration Management (DCM)** software, designed to support Relay 4 protection modules and streamline configuration workflows through modern UI/UX and direct device interaction.

### Key Responsibilities & Achievements:

- Fixed bugs and optimized system performance.
- Successfully migrated legacy Graphical User Interface (GUI) applications to Command Line Interface (CLI) solutions.

**Technology Stack:** QT/QML

## EDUCATIONAL QUALIFICATIONS

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### Bachelor of Computer Applications (BCA) | Expected Graduation: 2026

Bharathidasan University | 2024 - Present

**Status:** Currently pursuing (2nd year completed)

### Diploma in Computer Engineering (DCE) | 2022

DOTe - Ramakrishna Mission Polytechnic College

**Achievement:** 92% | **Specialization:** Computer Systems and Programming

## ADDITIONAL INFORMATION

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**Professional Experience:** 2.5+ Years in Industrial Software Development

**Domain Expertise:** Industrial Automation, Control Systems, Embedded Systems, Process Automation

**Core Competencies:** Rapid Learning and Adaptation, Automation-driven Development Approach, User Interface Design, Productivity Enhancement through Custom Scripting, Problem-solving, Team Collaboration, Project Management

**Languages:** Tamil, English