



CHAMIL VITHANAGE

ELECTRONIC ENGINEER

CONTACT



0415 090 800



chamil.kvithanage@gmail.com



Boronia, VIC



www.linkedin.com/in/chamil-vithanage

CORE COMPETENCIES

- Embedded Systems & Firmware Development
- PCB Design & Electronics Engineering
- System Integration & Automation
- Product Development & R&D
- Wireless Communication Protocols (LoRa, LTE-M, NB-IoT)
- Microcontroller Integration (AVR, PIC, ESP, ARM Cortex, RTOS)
- Signal Processing and Custom Protocol Development
- Circuit Design & Simulation (Proteus, Eagle, Altium)
- Programming (C++, Python, Visual Basic .Net)
- Power Electronics & Distribution
- Project Management & Leadership
- Compliance & Safety Standards
- Git Version Control

PROFESSIONAL PROFILE

Experienced Electronic & Controls Engineer with over **12 years** of expertise in embedded systems design, PCB layout, and controls engineering for intelligent products. Proven track record in leading end-to-end development of embedded control systems (hardware and firmware) with strong focus on **HVAC systems, ventilation products, and industrial automation**. Demonstrated proficiency in **Altium Designer, C/C++ programming, and microcontroller integration** including **STM32, ESP32, and PIC** platforms. Expert in managing engineering projects independently while collaborating with global teams and ensuring compliance with **AS/NZS, IEC, and ISO9001** standards.

KEY SKILLS

Embedded Control Systems Design

- Hardware & Firmware Development for intelligent ventilation and automation products
- PCB Design & Layout using Altium Designer, Eagle, and Proteus
- Embedded C/C++ Programming for microcontroller-based control systems
- System Architecture Development aligned with customer requirements and industry standards

Microcontroller & Communication Protocols

- STM32 M4, ARM Cortex, ESP32, PIC, MSP430 microcontrollers
- UART, SPI, I2C, MODBUS, CAN, RS485/232, TCP/IP protocols
- Wireless IoT Integration (LoRaWAN, NB-IoT, Bluetooth)
- Real-time Operating Systems (RTOS) implementation

HVAC & Ventilation Systems

- Intelligent Ventilation Products design and development
- Control Strategies for air movement and environmental control systems
- Energy Efficiency Optimization and power management for battery-powered devices
- System Integration with mobile applications and cloud-based platforms

Project Management & Compliance

- Independent Project Management with global team collaboration
- Technical Documentation preparation and maintenance
- AS/NZS, IEC, and ISO9001 compliance standards
- Design for Manufacturing (DFM) and volume production transition

EDUCATION

- **Post Graduate Diploma in Industrial Automation** | University of Moratuwa, Sri Lanka | 2016
- **Higher Diploma in Applied Sciences** | University of Sri Jayewardenepura, Sri Lanka | 2016
- **Engineering Council Graduate Diploma** | United Kingdom | 2010
- **National Diploma in Engineering Sciences** | Institute of Engineering Technology, Sri Lanka | 2009
- **Advanced Technician Diploma in Engineering** | City & Guilds, United Kingdom | 2006

EXPERIENCE

Testing Engineer

Relay Monitoring System Pvt Ltd (Wabtec Corporation) | Australia | Aug 2022 – Present

- Led embedded control system development for intelligent monitoring products, focusing on low-power consumption and reliability for transportation applications
- Designed and optimized embedded firmware on microcontroller-based platforms using C/C++ programming
- Conducted comprehensive testing of electronic control systems ensuring optimal performance, safety, and compliance standards
- Developed test equipment and procedures for product validation in development, production, and field settings
- Collaborated with cross-functional engineering teams to identify and resolve product issues, contributing to continuous improvement efforts
- Performed failure analysis on electronic devices, leading to improved product quality and reduced warranty returns

Engineering Technologist

ALSTOM / Bombardier Transportation | Australia | Nov 2021 – Aug 2022

- Designed and implemented embedded control systems for large-scale transportation projects ensuring compliance with industry standards
- Developed control strategies and system architecture aligned with customer requirements and AS/NZS standards
- Created detailed technical documentation including design specifications, test plans, and user manuals for new product releases
- Collaborated with multidisciplinary global teams to integrate embedded software with hardware systems, optimizing performance and reliability
- Managed engineering projects independently while ensuring successful delivery within time, budget, and quality constraints

Electrical Engineer

Ceylon Electricity Board | Sri Lanka | Oct 2009 – Jul 2019

- Led end-to-end design and development of high-voltage electrical control systems for large-scale infrastructure projects
- Designed custom communication protocols and signal processing algorithms for system monitoring and control applications
- Developed PCB layouts and optimized circuit designs using industry-standard CAD tools (Altium, Eagle)
- Implemented power management strategies extending device battery life significantly in portable applications
- Managed cross-functional teams ensuring successful project delivery meeting performance, safety, and compliance standards
- Created detailed schematics and wiring diagrams for complex electrical systems

MEMBERSHIPS

Member

National Engineering Register
(NER), Australia

Member

Engineers Australia, Australia

Member

Institution of Engineering &
Technology, United Kingdom

Associated Member

Institution of Engineers
Sri Lanka

TRAINING & COURSES

Work Safely at Heights

Firewatch Safety Results Group
Australia / 2020

Victorian Level 1 Training Track Safety Awareness

CERT Brooklyn
Australia / 2019

Metro Safety& Environmental Induction

CERT Brooklyn / 2019

System Engineer (Electrical)

Huawei Technologies Lanka Co. (Pvt) Ltd | Sri Lanka | 2008 – 2009

- Designed and tested prototypes of electronic control systems ensuring optimal functioning before production
- Developed embedded firmware for control systems resulting in faster processing times and improved functionality
- Managed installation and commissioning of electrical control systems for critical infrastructure projects
- Designed and documented electrical services systems ensuring compliance with industry standards
- Recommended design modifications based on environmental factors and system performance requirements

KEY PROJECTS

Intelligent Ventilation Control System Development

- Developed embedded control systems for HVAC applications with focus on energy efficiency and smart controls
- Integrated wireless communication protocols for mobile app connectivity and remote monitoring
- Implemented advanced control algorithms for temperature, airflow, and environmental control

IoT Edge Platform for Industrial Automation

- Designed and optimized embedded software for low-power IoT devices with cloud integration
- Developed custom communication protocols for industrial control applications
- Implemented real-time monitoring and control strategies for manufacturing processes

SCADA Systems for Power Generation

- Directed SCADA systems testing and PLC programming for hydro-electric stations
- Developed software solutions for power grid monitoring and control systems
- Implemented safety and compliance measures meeting industry standards

PROFESSIONAL SKILLS

Analytical | Critical Thinking
Attention to Detail
Collaboration | Team Player
Strong Communication
Dexterity
Organizational Skills
Time Management

TECHNICAL SKILLS

Software & Design Tools

- Altium Designer (Advanced PCB Layout & Schematic Design)
- Proteus, Eagle, Easy EDA (Circuit Design & Simulation)
- AutoCAD, MATLAB (Engineering Design & Analysis)
- Git Version Control, CI/CD (Software Development)

Programming & Embedded Systems

- C/C++ (Embedded Firmware Development)
- Python (System Integration & Automation)
- Visual Basic .Net (Application Development)
- STM32, ESP32, PIC, MSP430, ARM Cortex microcontrollers

Communication Protocols & Interfaces

- MODBUS, CAN, TCP/IP, Ethernet (Industrial Protocols)
- UART, SPI, I2C (Serial Communication)
- USB, RS232, RS485 (Interface Standards)
- Wi-Fi, Zigbee, LoRa (Wireless Communication)

Control Systems & Automation

- PLC Programming (Industrial Control)
- HMI/SCADA (Human-Machine Interface)
- RTU (Remote Terminal Units)
- RTOS (Real-time Operating Systems)

KEY STRENGTHS

- ✓ **Technically Curious** - Always exploring innovative solutions to design challenges
- ✓ **Excellent Communication** - Strong written and verbal communication skills
- ✓ **Project Management** - Proven ability to manage engineering projects independently
- ✓ **Analytical Problem Solving** - Strong critical thinking and attention to detail
- ✓ **Self-Starter** - Resourceful and effective in team environments across time zones
- ✓ **Global Collaboration** - Experience working with international teams and suppliers
- ✓ **Continuous Improvement** - Focused on enhancing product performance, cost, and manufacturability