KALAISELVAN S

#5, 3/1060, First street   Email : **kalai8svn@gmail.com**
Soolaimanagar, Mettukuppam, Chennai-600 097   Phone : +91 9003600617

Career Objective

To pursue a challenging career in a world class embedded organization which grooms me as professionally trained, technically sophisticated and dedicated individual with strong motivations.

Key Expertise

B.E with 6.5 Years of experience in Embedded software development. Expertise on microcontroller-based products and solutions for medical and automotive products.

Experience Summary

- Working as a Senior Software Engineer in L&T Technology services, from Jan 2016 to till date.
- Worked as Member Technical Staff in HCL Technologies, Chennai from Feb 2014 to January 2016.
- Worked as Project Engineer in E-Hands Energy India Pvt Ltd, Chennai from Aug 2011 to Aug 2013.

Work Summary

- Experience on driver development for ARM Cortex-M4 based ADSP-CM403 microcontroller.
- Experience on NXP LPC3250, PIC18FXXX, LPC555C and 8051 family micro controllers.
- Communication Protocols: UART, SPI, I2C, ADC, JTAG, J1939 and CAN.
- Experience in board bring-up, testing and debugging.
- Good knowledge on uCOS-II & real-time operating system concepts.
- Experience on Unit testing and unit test plan.
- Good understanding of schematics, Signal/protocol analysis with scope and Power analysis.
- Good Knowledge on AUTOSAR concept.
- Experience on agile software development process.
- Experience in Client Communication and Status Reporting. Worked in high pressure conditions.
- Good written and oral communication skills.

Skills

Languages / OS/ RTOS	C & C++ / Windows / uCos II
Tools /DB/Packages	KEIL micro vision, MP-lab for PIC & IAR workbench for ARM
Programming/Simulation Tools	Proteus ISIS & Eclipse emulator
Unit Test/ CAN	Google Test framework / CANape & Canalyzer
Issue Tracking / Static Analysis	Jira & Crucible / Klocwork & PCLint
Configuration management	Perforce – P4V, Clearcase & GIT
Debugger/Tools	Trace32, Lauterbaugh & GDB
Schematic/ Hardware Tools	OrCAD Capture CIS, Allegro Physical Viewer & Tera term
Testing Equipment	Oscilloscopes, FG, Logic analyzer, Secure CRT, DMM & JTAG
Scripting Languages	CAPL, Python & shell
Automotive Architecture/Tools	AUTOSAR/Autosar Builder/Davinci Configurator

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Project Details

Project 1:

Project Name	**Trinity C/B (BHL - BackHoe Loader)**		Duration	Mar 2016 to Oct 2017
	Client	Caterpillar Inc.	Team Size	8 people
Description	BHL is a heavy vehicle generally used in building and construction projects, running with several sub-systems. The Implement sub-system which is responsible for Hoe and Loader functionalities. The transmission sub-system which is responsible for power-train of the vehicle. The engine module is responsible for all the engine functionalities. The System Diagnostic module is responsible to do the HAL functionalities and raise/clear the diagnostics for all IOs. The L5PS module is responsible for power management. The display ECM is responsible for receiving the command and instruction from the operator. All the communication among the ECMs and data transfer is carried over CAN and J1939 protocols. All the ECM are using the on-chip peripherals such as quad SPI, NVM, ADC etc. The whole system is running on RTA operating system. The HAL and operating systems are introduced with AUTOSAR.			
Roles & Responsibilities	• Fuel level monitoring, Differential lock/Manual low idle input processing and AESC feature implementation • Direction Shift lever and PWM FNR direction switch input processing • Supporting various PIDs and SPNs • System Diagnostic and various library integration with applications • Board bring-up, testing and debugging • CAN based joystick (thumb roller and switch) implementation and integration with functionality. • DM1 (Diagnostics Messages1) receive handler protocol support for multiple diagnostics trouble code(DTC). • Autosar2.1 integration			
Tools	Canape, Canalyzer, GIT, Clearcase, Trace32 & Cadet			
Key Achievements	Received appreciation letter from Client for the Good work done.			

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Project 2:

Project Name	**Crossbow – Compact Wheel Loader**		Duration	Nov 2017 to till date
	Client	Caterpillar Inc.	Team Size	8 people
Description	CWL is compact vehicle used in building and construction projects, running with several sub-systems. Implement sub-system which is responsible for and Loader functionalities such as raise, tilt & kickout etc. Hystat sub-system which is responsible for power-train of the vehicle. The engine module is responsible for all the engine functionalities. The System Diagnostic module is responsible to do the HAL functionalities and raise/clear the diagnostics for all IOs. The L5PS module is responsible for power management. The display ECM is responsible for receiving the command and instruction from the operator. All the communication among the ECMs and data transfer is carried over CAN and J1939 protocols. All the ECM are using the on-chip peripherals such as quad SPI, NVM, ADC etc. The whole system is running on RTA operating system. The HAL and operating systems are introduced with AUTOSAR 3.9.			
Roles & Responsibilities	• Hystat, implement, IPS and Machine feature sub-system integration • Supporting various PIDs and PGNs • System Diagnostic and various library integration with applications • Board bring-up, testing and debugging • Autosar3.9 integration			
Tools	Canape, Canalyzer, GIT, Clearcase, Trace32 & Cadet			
Key Achievements	Received appreciation from client for successful integration of Autosar 3.9.			

Project 3:

Project Name	**Tesla**		Duration	Feb 2014 to Aug 2015
	Client	Physio control Inc.	Team Size	20
Description	This is used in the common treatment for life-threatening cardiac dysrhythmias, ventricular fibrillation and pulse less ventricular tachycardia. Defibrillation consists of delivering a therapeutic dose of electrical energy to the heart with a device called a defibrillator. The project consists of two devices one is DEFIB and other is PAM. where the PAM is the device to monitor the patient parameter like ECG, SpO2, SpCO, Temp, invasive Pressure, etc. the DEFIB is the device which will analyze the ECG data to provide the shock to patient. DEFIB and PAM is portable and to attach/detach from the same unit (Defibrillator). The main core of this unit is iMx6 processor, and it will run on QNX neutrino real time operating system. It also consists of MSP430 processor for power management and ADSP-CM403 for Vital sign monitoring of patient.			

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Roles & Responsibilities	- Driver development for configuring ICE40LPHX1K-FPGA from CM403F - Driver development for SPI, ADC and UART interface for ADSP CM403F - Porting of Command Line Interface to VSM platform - Board bring-up, testing and debugging - Internal ADC PBO development
Tools	IAR workbench for ARM, Jira & Crucible
Key Achievements	Successfully implemented drivers for FPGA configuration, UART & SPI.

Project 4:

Project Name	**A-SCAN**		Duration	Sep 2015 – Feb 2016
	Client	APPASAMY ASSOCIATES	Team Size	5
Description	The scope of this project is to calculate IOL power for Human Eyes. This is used in the surgery of Cataracts eyes by using the principle of Ultrasound waves. The device contains a probe which is capable of transmitting and receiving ultrasound signals, the thickness of the cataract present inside the eye is thus calculated by getting the corneal thickness and axial length which is obtained from the received signals. This project uses NXP LPC3250 controller and software was developed in Embedded C. The protocol used was I2C, UART. Input is given via a Touch screen LCD also used for the display purpose. The measured data can be printed using SII IFD502 -2" Printer. It can capable of storing 100 patients record.			
Roles & Responsibilities	- Printer interface via UART - IOL calculator implementation 7'' touch LCD interface through I2C protocol - Board bring-up, testing and debugging			
Tools	KEIL micro vision			

Project 5:

Project Name	**Hybrid Charge controller**	Duration	August 2011 – August 2012
		Team Size	3
Description	The scope of this project is to design AT89C51 based solar charge controller for Charging SMF/Tubular rechargeable batteries. The current is coming from the Solar Panel. The output of charge controller connected with battery systems. It has built in digital voltmeter (0-20V range). It is capable of overcharge protection, Deep-discharge protection and Low battery lock, Low current consumption.		
Roles & Responsibilities	System design and application development		

	• Board bring-up, testing and debugging
Tools	KEIL micro vision & Proteus ISIS

Project 6:

Project Name	**Wireless Tachometer**	Duration	August 2012 – August 2013
		Team Size	4
Description	It is a AT8951 micro controller based wireless system to measure the RPM of the micro wind turbines and transmit it to the receiver unit. The RPM reading is displayed in LCD.		
Roles & Responsibilities	• System design • Application development		
Tools	KEIL micro vision & Proteus ISIS		

Educational Qualification &Certifications

B.E	Electronics and communication, Completed in 2010 with 72%
HSC	N.A.Annapparaja Memorial Higher Secondary School, Completed in 2006 with 82%

Personal Details

- Address   :   44-b, South street, Arugankulam, Tirunelveli, TN-627757
- Nationality   :   Indian
- Passport Number   :   J6940312

Declaration

I Kalaiselvan hereby declare that the above details are true to the best of my knowledge and belief.

Date: Thank you,
Place: Kalaiselvan S