L.HARIHARAN
MALE, 25YRS

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SUMMARY

- 3+ years experience in **Automotive Embedded Systems** with exposure to various stages of Software Development Life Cycle. Associated with Visteon, India from October 2003.

- Pursuing Post Graduate Diploma in Business Administration **(PGDBA)** specializing in the field of Operations from Symbiosis Centre for Distance Learning **(SCDL)**.

- Graduated from SRM Engineering College, Madras University with **First Class and Distinction**.

TECHNICAL SKILLS

- **Embedded C**, Assembly Level Programming

- **VC++ based CID and CITT** – CAN Communication tools

- **CAN CAPL Programming**

- **Tools and Utilities** - Rational Clearcase Configuration Management, Rational Clearquest Defect Tracking, Static Code Analyzer QAC, Rational Test Real-Time (RTRT), DOORS requirement management. In-Circuit debugger Trace32, CANalyzer, CANoe, CANdela, CANgen, CANFlash, IAR, iSystems ST7 emulator, Ford EESE Diagnostic tool, Ford EESE Programming tool, GenY, Nunit

- **Microcontrollers** - Motorola Freescale S12/HC12, ST7

- **Operating Systems** – Windows NT, XP, DOS

FOREIGN LANGUAGE PROFICIENCY

Successfully completed German Language course for Basic Level 1 (**Grunstufe I**) in MAX MUELLER BHAVAN, Chennai.

WORKPLACE PROJECTS

US FORD Projects

- **Single Point Contact for all Ford Climate Control Projects** – RCCM, DATC & SZM variants of 2009D385/D471, 2008U377, 2008D3, 2007U22x, 2007 S197

  - **EEPROM over flash**
    Role: Design, Coding, Testing
    Description: This module essentially involves simulating EEPROM over flash. Diagnostic DTC data's and Calibration data's are changed runtime and are updated in flash instead of the EEPROM. Calibration values are updated using the CAN Calibration protocol (CCP).

  - **Hybrid Electric Vehicle (HEV) Control Algorithm**
    Role: Design, Coding, Testing.
    Description: Climate system shall try to improve the comfort settings for the user inside the car using the HEV control. The various different strategies such as Evap Core Wet/Dry Determination, Blend Door Auto Control are used to control Air-conditioning, Recirculation and Blower speed.

  - **Ignition Over NOS**
    Role: Design, Coding, Testing.
    Description: Developed the new module which shall receive inputs such as Ignition Status and Ignition Stable Status from CAN and decide the Ignition State whether low/high/Crank. The network layer was generated using the CANgen tool.

  - **Voice Scan driver**
    Role: Design, Coding, Testing
    Description: This module gets input from the Remote Climate Control (RCC). Basically switch inputs are AC ON / AC OFF, this key combination shall come in the Event Periodic message and this needs to be read and given the input for the states matrix feature where the button is processed and appropriate state is set.

  - **Hardware based module configuration**
    Role: Design, Coding, Testing
    Description: The climate control module has atleast 3 to 4 variants and for each variant plant need to program the different part numbers and is more prone to errors and is also time consuming. This module shall read the A/D input and automatically the partnumber and module configuration data's at runtime and is done at the first cold boot.

  - Involved in piloting **Nunit, freeware** tool for unit testing in D471 project

  - Implemented Input/Output Configurations, Register definitions and Sensor settings.

  - Involved in Integrating EEPROM Manager to application

Kerpen FORD Project – 2007 CD3xx

- **Developed a new module Air Quality Sensor**
  Role: Design, Coding, Testing
  Description: A varying PWM input from the AQS Sensor is used to measure the smell and odor. With this AQS input and other user inputs such as Window Position, Pedal Position, Engine speed, the Recirculation door is controlled.

- Implemented the **CANoe simulation techniques** for Ford wherein other domain experts can get their inputs from climate control without having any separate hardware. CANdela tool was linked with CANoe tool for diagnostics testing.

- Configured the **Remote Climate Control (RCC)** Module, which is used to get scanning inputs and send display outputs via CAN. The Button States Matrix processing and Subsystem Control will be done in the Electronic Automatic Temperature Control (EATC) unit.

- Implemented TEMP_TYPE conversion feature where the whole system is automatically configured for DegC or DegF units according to the Lookup Table values. This was useful for various sensors used in climate control module.

- Initiated **Automated Unit Testing RTRT**. The scripts were run at both ends and results were verified with ease. The Package Developed for the same was used for all other Climate and Instrument cluster projects.

US NIZZAN Projects– 2008 QW RCC, 2007 UL DATC

- **Remote Climate Control (RCC)**
  Role: Coding (Test Software for manufacturing plant)
  Description: The RCC module basically gets switch-scanning information from CAN. Previous model year hardware is to simulate the switch inputs for the RCC. Software is configured to detect the button pushes and send the information through CAN.

- Developed a prototype for 2009 MY programs of Nissan where the states matrix operation is different from other Nissan programs.

- Carried out the Key debounce logic for a Rear Push Button, configured Absolute encoder and LED Ports mapping.

Under Graduate Projects

- Undergraduate senior project titled Automated Wheel Chair (AWC) is in the field of Microprocessors. Mini Project includes Power Supply Failure Alarm, AC Line Detector.

ACHEIVEMENTS

- Won accolades from Product Development team for providing **emergency software assistance** in implementing the software for U22x SZM with short notice and without having any Hardware to test.
- Developed Hardware and Software for **Relay based Ignition chattering circuit.**
- Presented a **Knowledge Base Paper on Test Automation** using PC Ports.
- Involved in developing **Test Automation Plan and Test Case Design methodology** for Climate Control Domain and piloted the same in forward model project.
- Prepared and shared technical presentation on Climate Integration Testing Tool (CITT), Climate Integrated Display (CID), Air Quality Sensor (AQS), RTRT, DOORS.
- **Academic Excellence award for Cent-percent in Mathematics** - Higher Secondary examination held in March 1999.
- Bestowed an award by The Institute of Electrical and Electronics Engineering Inc (IEEE) for winning the First Prize in Technical/General Crossword conducted by them.

TRAINING

- Attended a seminar on Model based design conducted by Mathworks and learnt about the use of Matlab and Simulink in embedded systems applications
- Attended the dSpace Training conducted by Cranes Software International Limited.
- Attended the demo on Test Module Manager (TMM), automated functional testing using CANoe.

EDUCATIONAL BACKGROUND

BE (EEE)	1999-2003	SRM ENGG. COLLEGE	79.2 %
Class XII	1999	Sri Ahobila Math Oriental, Chennai	93.4 %
Class X	1997	Vivekananda Vidyalaya, CBSE	70.8 %

EXTRA CURRICULAR ACTIVITIES

- Prepare Vedic Mathematics PowerPoint presentations.
- Learn Vedas – Rudram, Sukthams and Slokas.
- Attended the Visteon community programs in Solai and conducted quiz programs for the children of ARUWE. Lead Visteon Family Day celebration team.

PERSONAL DETAILS

Date of Birth	:	05-12-1981.
Father's Name	:	P.Lakshminarayanan
Nationality	:	Indian
Passport Number	:	E2396765, valid upto 12th Aug 2012

References will be furnished upon request.

Declaration:

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

Place: Chennai
Date : (L HARIHARAN)