# **CURRICULUM VITAE**

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**SUMMARY:**

* **Having 15+ Years**’ experience in Embedded Products.
* **Involved in** Design, Development, testing of Firmware, Debugging the issues and validating of 30KW(3Phase) **EV’s charger.**
* **Involved in Developing of CAN based EV’s charges for different specifications.**
* Good in problem-solving methodologies, such as 5 Whys, Fishbone diagrams, and Pareto analysis.
* Involved in Testing of various products in Production like Terrain, CMRI and Lotus Plus Units.
* Involved in organizing field teams in Testing, Commissioning and Installation of **SMART Prepaid Meters** in TSSPDCL/TSNPDCL, Telangana.
* Involved in SIM’s(M2M/IOT) related activity with NSP i.e. Processing Documents, Invoices and interactive with NSP team.
* 5 years of experience in Design, Development, validating, testing Firmware Around of Micro controllers based products of **Power Sector.**
* Involved in developing, Testing, Commissioning and Installation of IAMR.
* Validation and Verification of Firmware for AMR using tools like debuggers.
* Debugging the issues related to Firmware and Hardware.
* Installation of AMR’s, testing of FE Application software for AMR, IAMR and SMRD at client location.
* Performing Functional and integration testing.
* Coordination with Production, Customer and field engineers for technical support.
* Experience of working on Keil, Silicon Lab IDEs.
* Familiar in handling GSM/GPRS modems through AT command set.
* Involved in developing, testing of power supply AC- DC, DC-DC and DC-AC converters.
* Having experience in schematic design and simulations using ORCAD9.0, ORCAD10.0
* Good exposure with quality systems like ISO9000 and Functional Specs, ….Unit Test Plan, and System test plan.
* Ability and Adaptability to work in any environment and interested to face challenges.

**PROFESSIONAL EXPERIENCE:**

1. Worked as an Firmware Engineer (Power Electronics) in R&D at **Smart Rotamach Pvt ltd,** Hyd., from Jan- 2024 to Sep-24.
2. Worked as an Sr. Engineer in R&D at **Rapidtron Electronikapvt ltd**,Hyd from May- 2023 to Nov-23.
3. Worked as an Project Engineer in HPL Smart prepaid meters project Telangana with **HPLELE AND POWER LTD. Through** consultancy RP ASSOCIATE from JAN-2022 to Mar 2023.
4. Worked as an Sr. Engineer **at ANALOGICS TECH INDIA LTD**. from JULY 2016 to Oct2021.
5. Worked as an Firmware Engineer (Embedded)at **AMITECH(INDIA) PVT LTD**. from OCT 2011 to May 2016.
6. Worked as an Engineer (Embedded)at **ESSEN ELECTRONIC SYSTEM PVT LTD**. from April 2011 to Oct 2011.
7. Worked as an Engineer (Embedded)at **ICSA-(INDIA) LTD** from April 2007 to March 2011.
8. Worked as Embedded Engineer trainee in **IvisionSofTech**., Bangalore from Jan 2006 to March 2007.
9. Trainee Program done in Embedded System Development based application testing in ISD at E.C.I.L in Hyderabad.

**SKILLS:**

Compiler : Keil ’C’, Hitec ‘c’.

Debugger : ULINK-2, KEIL IDE5, MPLAB, Silicon lab

Emulator : Wavecom Terminal Emulator, MPlab ICE.

Languages : C, embedded c, Assembly Level language (8085, 8086, 8051)

Micro Controllers : ARM- LPC 2214/2368/2106, PIC-16F877, PIC-18F452,

ATMEL-AT89S52, AT89C51, MSP430F47197.

Wireless Technologies : GSM/ GPRS.

ProtocolAnalyzer: Modbus , Dock light, Serial port monitor, Hyper Terminal.

Tools : ORCAD 9.0, ORCAD10, PSPICE

Protocols : RS-232, RS-485, SPI, I2C, CAN 2.0B.

**EDUCATIONAL PROFILE:**

M.Sc (Electronics) from T.J.P.S COLLEGE Nagarjuna University, Guntur, Andhra Pradesh with Aggregate of 73%.

**PROJECT PROFILES:**

**PROJECT PROFILE#1:**

**Project Title : EV’s Chargers CAN Based Models**

**Charger Models :4815/4820/6006/6015/6020/8410/7015.**

Client : Ipower /RedOn/Race energy

Micro Controller Used : MM32

Protocol : CAN 2.0B Matrix

Environment : Keil µVision5 IDE.

Language Used : Embedded C

**Description**:

CAN protocol charger offers a CAN based EV’s charger with standardization and connected charger for high performance EV’s applications. Controller(MM32) sensing the various signals of chargers( current, voltage, battery voltage levels) accordingly sends the message to BMS (BATTERY MANAGEMENT SYSTEM) which is inbuilt in a Battery pack through 2 wire can protocol. BMS sends control message to charger every fixed interval. After receiving the message, the charger arranges the working mode i.e o/p across the charger, according to the voltage/current of message data, with charging level indications. If it can’t receive data in certain interval between charger and BMS, charger stops the communication and charging of Battery with error state and same as BMS. After full charge of battery pack, BMS sends message data to charger, and charger stop charging of battery pack with indication.

Environment:

C, Windows, Keil C Compiler, MM32 Debugger, Oscilloscope.

**PROJECT PROFILE#2:**

**Project Title : AMR (Advanced Meter Reading) device.**

Client : TSSPDCL-HYD.

Micro Controller Used : Quectel in built CPU

Environment : Keil µVision4 IDE.

Language Used : Embedded C

**Description**:

AMR is a remote meter reading device built on powerful and sophisticated Microcontroller to monitor the electrical parameters of the electronic energy meter. There are two main modules in this device. The CPU module and the **GSM** modem module. When CPU module is powered, which does all the metering and the intelligent tamper calculations and detections. The GSM module is powered with Quectel 2g/3gModem which sends the entire instantaneous parameters, billing, load survey and Tamper data from the remote meter to base station using the SMS protocol.

Contributions:

* Primary involved in Developing & Testing of AMR’s.
* Giving demonstrations to DICOMS across India.

deliverables

My Other responsibilities and includes

1. Function test plan/validation plan
2. Interacting with metering utilities.

Environment:

C, Windows, Keil C Compiler, Debugger, ICE, Oscilloscope.

**PROJECT PROFILE#3:**

**Project Title : NETWORK TIME DISPLAY (NTD).**

Client : IACCS, INDIAN AIR FORCE.

Micro Controller Used : LPC932.

PROTOCOL : SNTP.

Environment : Keil µVision3 IDE.

Language Used : Embedded C.

**Description**:

Network Time Protocol (NTP) is a protocol that provides a reliable way of transmitting and receiving the time over TCP/IP networks. The NTD network clocks can be configured to display local time for any time zone worldwide by enabling time zone offset adjustments. The NTD is a large character time of day clock with a Ethernet network interface. The real time clock (RTC) can be periodically synchronized with a host computer clock over the network. Time can be displayed in either standard military (00:00:00 – 23:59:59) format. The network interface supports both 10BaseT and 100BaseT Ethernet connections. Front end software is provided with the NTD that can be used to perform the Set/Change/View NTD IP address, Subnet Mask, Gateway, Assign Time Server IP, alternate Time Server IP and Network Time Display Management PC IP.. The serial RS-232 port is used to initially configure the NTD via the “COMMAN” which provides local communications with a terminal or computer. This device allows for maintenance free, reliable, quiet operation.

Contributions:

* Primary involved in Development and Testing of a product.
* Giving demonstration to IACCS, IAF at client location

**PROJECT PROFILE#4:**

**Project Title : IAMR (Intelligent Automatic Meter Reading) device.**

Client : EPDCL-Vizag.

Micro Controller Used : ARM 32bit LPC-2214.

Environment : Keil µVision3 IDE.

Language Used : Embedded C/C++

**Description**:

IAMR is a remote meter reading device built on powerful and sophisticated Microcontroller to monitor the electrical parameters of the electronic energy meter. There are two main modules in this device. The CPU module and the **GSM** modem module. The CPU module is powered with an ARM7 core controller (LPC2214) which does all the metering and the intelligent tamper calculations and detections. The GSM module is powered with a WISMO Quik Q2403 Modem which sends the entire instantaneous parameters, billing, load survey and Tamper data from the remote meter to base station using the SMS protocol.

IAMR enhances the performance and functionality of the old existing electronic meters. Migration to prepaid meter concept is possible with IAMR.

Contributions:

* Primary involved in Testing, Installation & Commissioning of IAMR's at Client Location.
* Giving demonstrations to DICOMS across India.

My Other responsibilities and deliverables includes

1. Scheduling the plans.
2. Providing Manpower to concerned projects.
3. Function test plan/validation plan
4. Preparation of Quality documents (ISO) and Peer Review Forms.
5. Interacting with metering utilities for Restructured Accelerated Power Development and Reforms Programme (R-APDRP).

Environment:

C/C++, MS-Office, Windows, Keil C Compiler, Debugger, ICE, Oscilloscope, OR-CAD.

**PROJECT PROFILE#5:**

**Project Title : SMRD (Substation Meter Reading Device)**

Client : EPDCL-Vizag, AVVNL-Ajmeer, BESCOM-Banglore.

Role : Team Member.

GSM Module : Q24 classic wireless CPU

Micro Controller : ARM 32bit in-built in **GSM** module.

**Description:**

SMRD is a remote substation meter reading device used to read minimum of 8 digital electronic energy Meters of any make with one GSM module and controller, through the MUX (multiplexer unit). The device has mother board and the channel/control card. The mother board has GSM module powered with a Wavecom Q2406 Wireless CPU Modem which has ARM 32bit controller embedded in it is the heart of the device. The channel card has 8 channel slots connected via serial cable to the RS232-485 converters to read 8 different meters located at 8 feeders. Each channel is selected one at a time using the chip select logic via a multiplexer. The meters connected to feeders are read using the MODBUS protocol. The GSM module sends the entire instantaneous parameters, billing, load survey and Tamper data from the remote meter to base station using the SMS protocol. Wavecom Open AT Application peripheral interfaces (API’s) are used to develop the application firmware for this product.

Contributions:

* Primary involved in Testing, Installation & Commissioning of AMR's at Client Location.
* Giving demonstrations to DICOMS across India.

My Other responsibilities and deliverables includes

1. Scheduling the plans.

2. Providing Manpower to concerned projects.

3. Function test plan/validation plan

4. Preparation of Quality documents (ISO) and Peer Review Forms

5. Interacting with metering utilities for Restructured Accelerated Power Development and Reforms Programme (R-APDRP).

Environment:

C/C++, MS-Office, Windows, Keil C Compiler, Debugger, ICE, Oscilloscope, OR-CAD.

**PROJECT PROFILE#6:**

**Project Title : TDD (Theft Detection Device) unit.**

Client : Reliance-Mumbai.

Role : Team Member

Micro Controller : PIC 18F452.

**Description:**

TDD aims to identify theft at LT pillars (Junction Boxes used for underground power distribution lines) under different tamper conditions. The unit consists of Control card and GSM module. The Control card is powered up with PIC-18F452 Microcontroller, which does all the tamper calculations and detections. The GSM module is powered with a WISMO Quik Q2403 Modem which sends the entire instantaneous parameters and Tamper data from the remote meter to base station as well as concerned officials using the SMS protocol. In addition it also initiates the local audio alarm on unauthorized opening/closing of LT pillar/underground cable box.

Contributions:

* Primary involved in Testing, Installation & Commissioning of AMR's at Client Location.
* Giving demonstrations to DISOMS across India.

My Other responsibilities and deliverables includes

1. Scheduling the plans.

2. Providing Manpower to concerned projects.

3. Function test plan/validation plan

4. Preparation of Quality documents (ISO/CMM) and Peer Review Forms

Environment:

C/C++, MS-Office, Windows, Keil C Compiler, Debugger, ICE, Oscilloscope, OR-CAD.

**Personal Profile**

Name : NuruddinSk

Father’s Name : MastanSk

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Phone : +91-9391483680.

Mail ID : sknuru@gmail.com

Martial Status **:** Married

Languages Known **:** English, Telugu and Hindi.