

## SANDEEP KALAKOTA

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### Profile:

Embedded Developer with 1.10 years of experience in Firmware development for embedded devices & for MCU, Prototyping to production level.

### Work Experience:

Period	Organization	Position
July 06 <sup>th</sup> 2023 – April 30 <sup>th</sup> 2025	Nav Tech Electronics India Pvt Ltd	Embedded Developer

### Professional Summary:

- Around 1.10 years of Experience in firmware development for embedded devices.
- Programming skills in C Language.
- Good at protocol set I2C, UART, SPI, CAN and knowledge on Free RTOS.
- Hands on experience in GSM, GPS, Real Time Clock.
- Hands on experience in Analog Sensors(4-20mA,0-5V).
- Hands on experience in workflow methodologies (Agile-Scrum, Waterfall, V-model).
- Hands on experience in ticketing tool (JIRA).
- Exposure in Electronics Product development from Concept to Production Phase.
- Knowledge on SDLC.

### Technical Expertise:

**Domain Expertise:** Firmware development

**MCU:** STM32F746, PIC16F877A

**Programming Skills:** C, C++ & Linux Internals.

**Operating Systems:** Linux, Windows.

**IDE Tools:** STM32Cube, Keil u Vision, MP Lab, IAR Embedded Work Bench.

**Version Control:** Git & SVN.

### Academic Profile:

Qualification	University/Board	Period	Percentage
B. Tech (Electronics & Communication Engineering) from RGUKT, Basar	RGUKT	2019-2023	75
10 + 2 (MPC) from RGUKT, Basar	RGUKT	2017-2019	85
SSC from ZPHS, Hyderabad	T.S State Board	2016-2017	98

## **Advance Embedded System Course (ESSCI QP ELE/Q1501)**

**Sept 2024 - Ongoing**

Emertxe Information Technologies, Bangalore (Online)

**Focus Areas:** Embedded C, C++, DSA, GPIO, ADC, Timers, UART/SPI/I2C. PICSimLab, MPLAB, Linux, Vim, Makefiles, GCC/XC8, GDB

### **Project: Outlet Management System (OMS)**

**Company:** Nav Tech Electronics India Pvt Ltd

**Tools:** STM32Cube IDE

**MCU:** STM32F746ZGT6

**Description:** The Outlet Management System is an advanced solution designed to optimize irrigation water distribution by regulating pressure and flow through automated valves. The OMS integrates scheduling/rotation management system to efficiently manage irrigation operation. This setup ensures precise water usage, enhances crop yields, and conserves resources.

### **Project: Air Management system (AMS)**

**Company:** Nav Tech Electronics India Pvt Ltd

**Tools:** STM32Cube IDE

**MCU:** STM32L073RZT6

**Description:** Air Management System (AMS) is a compact, smart solution integrated into the Khalwa Micro Irrigation System to manage air pressure in pipelines. It detects and releases trapped air or prevents vacuum conditions, ensuring smooth water flow, protecting pipes, and improving overall irrigation efficiency.

### **Project: Car Black Box (CBB)**

**Institute:** Emertxe, Bangalore

**Tools:** MPLAB X IDE

**MCU:** PIC16F877A

**Description:** The goal of this project is to implement core functionalities of a car black-box in a PIC based micro-controller supported by rich peripherals. Events will be logged in EEPROM in this project. This project can be further extended to any vehicle.

### **Project: Image Steganography using LSB Encoding and Decoding**

**Institute:** Emertxe, Bangalore

**Tools:** Visual Studio Code

**Description:** Sent a secret text file encoded inside an image in BMP format. Encoded the length of the secret text and the data into the LSB of the image bytes. Decoding involved retrieving the length and the secret text bit by bit.

**Project: Mini Shell****Institute:** Emertxe, Bangalore**Tools:** Visual Studio Code**Description:** Developed a mini-shell for user interaction with the operating system using Linux Kernel System calls and IPC mechanisms.**Personal Details:**

Date of Birth:	07/06/2001
Nationality:	Indian
Marital Status:	Single
Address:	Hyderabad
Declaration: Hereby, I Sandeep Kalakota, declare that all the above information provided is true to the best of my knowledge and belief	(SANDEEP KALAKOTA)