

# Vuttaravilli Ambedkar

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## Career Objective:

Seeking a challenging role in embedded software development, leveraging my expertise in C programming, embedded systems, and communication protocols to contribute to innovative projects.

## Professional Summary:

- Over 2.5+ years of experience in **embedded software development**, specializing in C programming, **Embedded C**.
- Extensive experience with NXP (LPC11C24) microcontrollers.
- Strong understanding and practical experience with communication protocols such as **UART, MIL-STD-1553, RS422, RS485** and partially on SPI and I2C.
- Proficient in various development environments, including **SDKs, Keil, visual Studio, NetBeans** and **MPLABx**.
- Skilled in debugging and code analysis tools like **Understand** and **Beyond Compare**.
- General Familiarity with real-time operating systems and structured problem-solving methodologies.

## Academic Education:

- **B. Tech** (2014 - 2018):  
Stream : Electronics and Communication Engineering  
University : Under JNTU Kakinada  
Percentage : 68.74%
- **Intermediate** (2012 - 2014):  
Group : MPC  
Board : Board of Intermediate Education AP.  
Percentage : 78.50%
- **SSC**:  
Board : Board of Secondary Education AP.  
Percentage : 72%

## Technical Skills:

- **Operating Systems**: Expertise in Windows and Linux environments
- **Programming Languages**: Proficient in C and Embedded C
- **Development Tools**: Skilled in Visual Studio, Keil, Xilinx SDK, NetBeans and MPLABx
- **Code Analysis Tools**: Familiar with Understanding Tool and Beyond Compare for code analysis

## Professional Experience:

- Designation : Embedded Software Engineer.
- Company : Research Centre Imarat
- Duration : August 2022- July-2024.
  
- Designation : Embedded Software Engineer.
- Company : Directorate of Special Projects (DSP)
- Time Period : July 2024 - Till.

## **Projects Done:**

### **Project -1:**

Title : **Onboard Mission Software Development**  
Technologies : Embedded C, Real-Time Operating Systems (RTOS)

Contributed to the creation of driver software for peripheral devices, ensuring reliable real-time communication across subsystems using RS-422 and 1553B protocols. This project plays a vital role in aerospace systems development, specifically relating to Indian missile technology

**Role:** Embedded Software Developer

#### **Key Contributions:**

- Coordinated with clients to gather requirements and assisted in preparing Software Requirements Specifications.
- Performed in-depth technical analysis, design, and development of software solutions.
- Supported team members with technical expertise and managed environment setup.
- Participate in the code reviews and applied performance optimization techniques.

### **Project -2:**

Title : **Development of Launch Pad Computer Software**  
Technologies : Embedded C, Qt creator

The Launch Pad Computer Software ensures the proper sequence of operations for the onboard computer before launch. Developed RS422 protocol communication, which interfaces with the application stack to conduct checkout and auto-launch activities. Additionally, created a GUI in Qt Creator for real-time data display of critical parameters.

#### **Responsibilities:**

- Implemented RS422 protocol communication for checkout procedures.
- Designed and implemented a user-friendly interface to monitor key data through a graphical representation.

### **Project-3:**

Title : **Development of Bus Management Unit**  
Technologies : Embedded C, MPLABx, Visual Studio  
Protocols Used : RS422, RS485, MIL\_STD\_1553 (core BRM to FPGA)

The Bus Management Unit (BMU) plays key role for satellite in the group of Attitude and Orbit Control systems, which can perform multi-tasking with the other subsystems and transmit telecommand and telemetries to the Ground station.

#### **Responsibilities:**

- Implementing the RS485 communication between BMU the Reaction Wheel and test all the test cases
- Establishing RS422 communication for the Rate Sensor
- Implanting BRM register based 1553 protocol for core FPGA.

## **PERSONAL PROFILE:**

**Name** : Vuttaravilli Ambedkar  
**Son of** : V. Narsimhulu  
**Date of Birth** : 27<sup>th</sup> June 1997  
**Gender** : Male  
**Nationality** : Indian  
**Mobile No** : 8500251696, 8179341941  
**Linguistic fluency** : English , Telugu and Hindi

**(V. AMBEDKAR)**