## B. Praveen Kumar

## Email: [bonthalakotipraveen@gmail.com](mailto:bonthalakotipraveen@gmail.com)

## Phone: +91-8247430114, Location: Khusaiguda, ECIL, Hyderabad, 500062

# Career Objective:

To associate with an organization where there is an ample scope for organizational as well as individual growth. Seeking a position to utilize my skills and abilities in the Embedded Systems Hardware Design Development industry, offers professional growth while being resourceful, innovative and flexible Organization.

# Education:

**B.Tech in Electronics and Communication Engineering (ECE)** Gokul Institute of Technology and Sciences, Bobbili — 2014 **Secured:** 69.04%

## Diploma in Electronics and Communication Engineering (ECE)

Bhaskara Polytechnic College — 2011

**Secured:** 79.04%

**Secondary School Certificate (SSC)** Srinivasa Talent School — 2008 **Secured:** 82%

# Technical Proficiency:

* Good experience in Digital and Analog circuit designs.
* Worked on STM32 Microcontroller & Communication Protocols: STM32, PIC32, RS-232, RS-422, RS- 485, SPI, I2C, UART, USB, and Ethernet.
* Worked on hardware design using AM5728 Sitara processor and Software & Tools: Red Hat Linux, STM Utility, Linux Applications
* Worked on hardware design using ZYNQ7030, 7045, ZYNQ ULTRASCALE+, KINTEX-7, SPARTAN-6, FPGA’s and its power sequencer IC’S.
* Worked on Power Board design up to 60 Watts DC-DC converters and LDOs (Vicor, Power).
* Worked on experience in DDR2, DDR3, DDR3L, and DDR4.
* Worked on experience in Bus architectures like I2C, SPI, RS-232, RS - 422/485, USB, and ETHERNET up to 1GBPS.
* Worked on experience in Audio Codec interface (TLV320AIC3106IRGZT).
* Worked on memory interfaces using EEPROM, SPI FLASH, NAND, SDCARD, and SRAM.
* Worked on hardware testing devices ADC, DAC, LCD and Graphic Displays.
* Worked on GPS (NEO-UBLOG M8 module).
* Hands on experience in Schematic Design using ORCAD and CADENCE 16.6.
* Hands on experience with Test and Measurement Equipment’s like CRO, DMM, Function generators.
* Worked on assembling the components like SMD, DIP different types of packages.
* Experience in LAB maintenance
* Involved in system integration and field trials.

# Work Experience:

## Hardware Design Engineer

Innovation Communication Systems (Stuam Technologies), Hyderabad June 2022 – Present

* Hands-on experience on test & measurement equipment like oscilloscopes, multi-meters, signal generators.
* Strong board design skills with experience in Mixed-Signal systems, High speed serial interfaces, microprocessor subsystems, FPGA based design.
* Data and control interfaces. Examples include UART, USB, SPI, I2C, and Ethernet.
* Experience in Analog, Mixed-Signal systems, Digital interfaces and related HW design
* Experience in audio and other multimedia interfaces. Examples include HDMI, Display Port.
* Hands on experience on board bring-up, functional and various interface testing
* Embedded hardware design for critical projects using ORCAD 16.5, Cadence, and Red Hat Linux.
* Designed and validated schematics and layouts for complex systems, ensuring compliance with client specifications.
* Conducted board bring-up, peripheral interface testing, and troubleshooting to meet project deadlines.
* Managed part selection, BOM preparation, and functional validation.
* Contributed to technical documentation and test reports for product delivery.

## Key Projects:

1. **DMR** Base station & Repeater
   * This works for trunking feature between different users. The Trunk has IP connectivity providing flexibility to connect to different network users / services via IP. The different modules involved in Base station with trunk are Antenna System
   * Separate antenna system for TX and Rx which shall include high gain antenna system. Minimum 10dBi or better for Tx (1+1) and Rx ,2 Surge protecting device in RF cables

## SOM-AM5728

* + Developed a high-performance system-on-module for industrial applications, including HMI and Industry 4.0.
  + Led schematic updates, part qualification, and functional validation.
  + The AM5728 SOM module is a tiny and fully usable of AM5728 processor functionality. It has onboard PMIC, DDR 3 SDRAM of 4GB, EMMC flash of 64GB memory and Audio codec chip which has 12 audio inputs and 14 audio outputs.
  + It can boot from different memory devices (like SD Card, USB, SATA, UART) based on the DIP Switch provided on board for boot selection.
  + The ARM allows developers to keep control functions separate from other algorithms programmed on the DSPs and coprocessors. It is built to meet the intense processing needs of 3 major types of modern embedded applications: HMI, Industry 4.0 and multimedia.

1. **NIPS (Navigation Interface Processing System)**
   * Developed a customized backplane system with SBC, PSU, Holdup Module, and Control PCB interfaced in a pluggable concept.
   * Managed LED indicators for power-on and fault detection.

## COMSIS

* + Worked on sensor data acquisition and transmission systems for radar and weapon systems.
  + Ensured effective system integration through AFNET communication.

## Hardware Testing Engineer

Sumith Electronics Pvt Ltd., Hyderabad July 2016 – May 2022

* Worked on embedded hardware design and testing for various transport system projects (ITS, NIVID, DIKSUCHI) used in public transportation and passenger information systems.
* Led board bring-up, peripheral testing, and functional validation.
* Assisted in part selection, BOM preparation, and technical documentation.

**Key Projects:**

## On-Bus Intelligent Transport System (ITS)

* + Developed a 24/7 operational system for urban transport, including real-time diagnostics and GPS-based tracking.
  + Led hardware integration, software application testing, and system troubleshooting.

## NIVID-1636 (Passenger Information System)

* + Designed and integrated systems using STM32 microcontrollers, RS485, RS232, and Ethernet communication protocols.
  + Developed solutions for displaying real-time information on LED boards.

## Hardware Testing and Technical Support Engineer

EMSD (ECIL), Hyderabad 2015 – 2016

* Provided hardware troubleshooting and technical support for embedded systems, ensuring the timely resolution of hardware faults.
* Assisted in design and development phases, improving overall system performance.

# Professional Summary:

* **Embedded Hardware Design:** Experience with RF, GPS, GSM, Wi-Fi, Bluetooth, SD Card, camera, LCD, PCI interfaces.
* **Protocols & Systems:** Knowledge of DDR2, DDR3, LPDDR4, LPDDR5, UFS, eMMC, USB, and RF protocols.
* **Tools:** Skilled in ORCAD 16.5, Cadence tools for schematic and layout design.
* **Testing & Troubleshooting:** Extensive experience with hardware testing, board integration, and issue resolution.
* **Documentation & Reporting:** Proficient in generating technical documentation, BOM preparation, and test reports.

# Personal Details:

* **Name:** B. Praveen Kumar
* **Father’s Name:** Ganapathi Rao
* **Date of Birth:** 01/07/1992
* **Languages Known:** English, Hindi, Telugu
* **Address:** Khusaiguda, ECIL, Hyderabad, 500062

**Declaration**

I hereby declare that the information provided is true, correct, and complete to the best of my knowledge.

## Date:

**Place:** Hyderabad *(*Signature*)*