SARAVANAMOORTHY DHAMOTHARAN
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Profile

Over 16 years of experience in real time bare metal embedded designs and power electronics.
A Self-starter, efficient hardworking designer with comprehensive understanding of design and manufacturing.
Experience in all stages of design from concept to production and installation.

Experience:

Solution architect and Consultant - Power Electronics and Embedded Systems
Vyuha technologies, Bangalore-INDIA June 2003 to July 2019

Technical skills:

- Firmware development for real time applications with Microchip's 8-bit PIC Microcontrollers and 16-bit dsPIC30F & 33EP DSC using embedded C and assembly in MPLAB IDE
- Efficient coding in embedded C for real time bare metal power control requirements
- MPLAB simulators and debuggers for testing
- Analog and Digital circuit design integration with microcontrollers and DSC
- PCB schematic capture creation and layout design using Orcad
- Ability to create new foot prints in Orcad
- Coding VB6 for configuration & data monitoring using RS232
- Power electronics design using MOSFET, IGBT and SCR
- Digital data bus I2C, RS232 and UART using 8 & 16 bit controllers
- UPS protocol converter using RS232 for Megatec NETagent/SNMPcards
- Fundamentals of CAN bus using Microchip controllers
- Fundamentals of 32bit ARM cortex-M4 using STM32L476G discovery kits
- Renewable energies Windmill and Solar power generation
- Hands on using lab equipment's Fluke Meters, DSO, Fluke Power analyzers and Power supplies for testing
- Documentations including PCB assembly list, BOM, Wiring details and test procedures
- Component procurement and negotiation with suppliers
- PCB assembly, soldering and prototype testing
- Installation and Commissioning of prototypes

Project summary:

- UPS Meters with 20X4 & 16X2 displays using 8-bit PIC controller in embedded C
- Solar energy meters with RS232 using 8 bit PIC controllers in embedded C
- Displays with Mega Tec protocol for SNMP/Net agent cards using 8 bit PIC controllers
- Data loggers with RTC using I2C bus with PIC18F controllers in embedded C
- Solar and windmill energy black box design using 8 bit PIC16F controllers
- Inverter and UPS designs using 16 bit dsPIC30F Microchip DSP in embedded C
- PFC buck IGBT design for online UPS AC to DC up to 30KVA
- Traction battery chargers using 16 bit dsPIC30F 48V/55A with PF>0.90 AC to DC in embedded C
- Solar MPPT Design from 12V to 360Vdc @ 18Khz DC to DC in embedded C
- High Frequency DC-DC boost 3KW\72vdc @ 50Khz DC to DC
- Single Phase & three static bypass switch for hot stand by applications.
- Three Phase grid synchronization for online UPS using dsPIC33EP DSC in embedded C
- 100 + Successful Customized Industrial Hardware and bare metal firmware designs in C

Education:

Bachelor of Engineering in Electronics and Communication 2003
Amrita Institute of Technology, Coimbatore, Tamilnadu India