**Sandeep Singh R** Ph: 7406050506/7975062764

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**Career objective:**

Decisive, strategic & innovative Technocrat targeting challenging assignments in **leading Embedded Systems Development and managing team** that enable the use of leadership, functional & technical skills to positively contribute to growth of the organization

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| **Qualification** | **M.Tech | SJCIT, VTU |** Major: Signal Processing. (Course Completed) **2016**  **B.E | SSEC, VTU |** Major: Electronics & Communication. **2011** |

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| **Technical skills & expertise** | |  |  | | --- | --- | | Programming language | C, Embedded C, MATLAB, Python. | | **Operating systems** | Microsoft Windows, Linux (Basics),FreeRtos | | **Processors (MCU's)** | PIC & 8051 family MCU, TI Boards, Arduino,STM32 | | **IDE's & Compilers**  **Coding Standards** | Kiel , MPLAB, IAR, Arduino IDE, Xilinx(Basic).  Knowledge on MISRA C, DO 178 | | **Communication Protocols** | RS232(UART), I2C, SPI, RS485. | | **Interfacing modules** | IO Handling, Timers/Counters, PWM, ADC, DAC, EEPROM, Flash, RTC, Relay, Motors, RF434, Zigbee and Wi-Fi etc. | | **PCB Designing tools**  **Other Tools** | Kicad, Altium (Schematic Design).  GIT, JIRA, Bitbucket. | |

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| **Professional experience:** | **Assistant Manager RND MPA Pvt. Ltd** May 2022 to till now  **Senior Embedded Design Engineer STPL** March 2021 to May 2022  **Senior Software Developer Nexsemi Systems Pvt Ltd**  Oct 2018 to Nov 2019   * Validation Engineer Client: Microchip Pvt Ltd Mar 2019 to Sep2019 * MATLAB Developer Client: Microchip Pvt Ltd Oct 2018 to Mar2019     **Embedded Design Engineer Monee and company Pvt Ltd**  Nov 2016 to Nov 2017  **Research Associate PESIT** Oct 2012 to Aug 2014  **Design Engineer – Embedded Apsis Solutions** June 2011 to Oct 2012 |
| **Significant Project Profile & Individual Role:**  **Roles and Responsibilities**  **Roles and Responsibilities**  **Roles and Responsibilities**  **Roles and Responsibilities**  **Roles and Responsibilities**  **Roles and Responsibilities**  **Roles and Responsibilities** | * **Project name: Spectrometer Design and Development**   **Hardware** : STM32 Family Microcontroller, ADCs, CCD, Flash  **Software:** STMCUBE**,** IAR Workbench, VSS   * Providing leadership in requirement gathering from Sales Team & other stakeholders, documenting (functional specifications, technical designs), coding and testing along with a team of members * Understanding development practices in order to make informed decisions, lead the team and provide various ideas * Controlling all phases inclusive of scoping, development, integration, deployment, testing, maintenance and production * Participating in leadership discussions and ensuring that the projects are ontrack and attuned with key objectives * Prioritizing & procuring hardware/software resources, and enhancing productivity & resource utilization for existing resources * Monitoring team’s performance and implementing strategies for building team effectiveness by promoting a spirit of cooperation * Identifying training needs of employees and mentoring them on skills through sustained practice & instruction * Promoting & building a culture of free communication, trust and innovation * Firmware Development of the unit. * Design and Testing of the Rig. * **Project name: AFCS: Automatic flight control system**   **Hardware:** ATMEL and PIC MCUs**.**  **Software’s**: IAR Workbench, MPLABX, FreeRtos   * Firmware Development of the unit. * Design and Testing of the Rig. * Researched new technologies and assessed feasibility for inclusion in new concepts. * Used CAD software to create models and simulations for use by manufacturing team. * Dealt with complex customer specifications by actively listening to goals and creatively resolving points of concern. * Packaged engineering designs, selections and specifications of auxiliary systems and components. * Confirmed engineering team complied with internal processes and procedures and external governing requirements. * Made sure that Health and Safety practices were followed both in daily work and incorporated with product design. * Selected manufacturing methods, fabrication and product designs with care for internal cost controls and government standards. * Prepared outlines and detailed design drawings and associated construction-ready documentation for client approval before project launches. * Contributed positively to business achievement plan and overall success of design team through consistent attendance. * Designed and Developed exclusive products as well as mechanisms and sub-assemblies. * **Project name: MPLAB Harmony peripheral library Validation**   **Hardware:** ATMEL and PIC MCUs**.**  **Software’s**: IAR Workbench, MPLABX, Jython,C Application   * Understanding and preparing Software Design Documents like Test Plan and Test Case for the given Modules under Validation. * Validate respective register set’s content assigned by PLIB using MPLAB X Simulator * Identify various test scenarios keeping end use in mind for each APIs and features * Prepare Software Design Documents like list out all the features, test scenario and test cases along with method of Testing, pre-requisites and hardware setup information. * Develop and test validation code as per description provided in prepared document keeping in mind that developed code can run and log results using automated validation framework. * Performing Software Simulation and Hardware harness testing. * Generating Reports using scripts and updating in Jira and Git. * Raising Bug/ Issues under Jira if any failures occur during testing. * **Project name The Power Smart Development Suite**   **Hardware & Software:** Omicron Bode Analyzer**,** MATLAB   * Understanding the design needs for the GUI development. * Integrating the calculation and populating the values in GUI as per requirement. * Testing the GUI under various conditions. * Generation of Reports and Discussion with the team for further development changes. * Developed new, efficient, and well-tested code for a variety of different software projects. * Provided weekly detailed project reports to keep manager informed on milestones and updates. * **Project name: Home Automation over IOT Falcon Controller with Kite switch, IR BLASTER and Smart Plug**   **Hardware & Software:** PIC24 & 32 MCU, MPLAB, Ambient sensor, LED drivers, Triac, Miwi, Ethernet, EEPROM, Flash memory   * Team member in driver development for various peripherals of MCU platforms. * Testing and debugging. * Hardware designing and board bringing up. * Verifying the board bring-up with various test cases. * **Project name: Channel Sounding Experiments to Study Doubly-**   **spread underwater acoustic Channels in Shallow waters**  **Hardware & Software:** NI DAQ tools, MATLAB.   * Responsible for development of hardware electronics based on the requirement. * Interfacing data acquisition devices such as NI-DAQ, working with Microcontrollers. * One of the team players for maintaining underwater tank facility, performing acoustic experiments, and analyzing with MATLAB, reliability testing of the system developed for performance verification. * Designed presentations summarizing research findings. * Coordinated research projects to achieve overall team efficiency. * Collected large volumes of data with high accuracy. * Demonstrated outstanding project management abilities, running innovative research programmes within cost and timeframe parameters. * Maintained inventory, equipment and materials in an organized fashion. * Built and nurtured positive, professional relationships with key industry and academic partners, broadening opportunities for multidisciplinary research. * Carried out focused statistical analysis, maximizing data understanding and uses across varied research platforms. * Collaborated effectively with students and lecturers to develop high-performing research programmes, garnering external interest from industry and academia. * Outlined key research in documents, spreadsheets and reports. * Created engaging, insightful journal articles, building faculty reputation for cutting-edge methodological research. * **Project** **name**: **Rotating data acquisition system of strain gauges for obstacle**   **hit Experiment in planes.**  **Hardware** :PIC32MX460/795F512L Microcontroller, ADC, MCP6N11, SST25v080B flash, RF Module, Strain gauge**.**  **Software:** MPLABX**,** MATLAB   * Reliability testing of the system developed for performance verification. * Application and GUI development using MATLAB/SIMULINK for several projects. * Testing of boards based on the application code provided. * Sketched outline designs and used CAD programs to provide detailed design and specifications. * Used CAD software to create models and simulations for use by manufacturing team. * Made sure that Health and Safety practices were followed both in daily work and incorporated with product design. * Confirmed engineering team complied with internal processes and procedures and external governing requirements. * Packaged engineering designs, selections and specifications of auxiliary systems and components. * Designed and Developed exclusive products as well as mechanisms and sub-assemblies. |
| **Extracurricular activities and hobbies** | * Completed **’B’ Certificate** in NCC **Army wing** in KARNATAKA & GOA Directorate. * Attended several Technical Events like EXPOS, Workshops organised by several companies**,** Bangalore on behalf of the company. * Interests in adventure activities like Rock Climbing, Rappelling and Trekking etc. * Worked as Freelancer trainer- Training Engineering students to build their final year Projects |
| **Academic Projects:** | 1. Wireless Automation for existing No Due Certificates. 2. Microcontroller based Wireless call-button system for industrial workstation 3. Smart Communication system for Dumb & Deaf People using Kinect Sensor |
| **Projects as Freelancer:** | 1. A Spider Type Crawling Robot for Survey in Hazardous Environment. 2. Automated Robot for Flyer Distribution & Awareness Promoters. 3. Home Automation over IOT using Node-MCU, ESP8266. 4. Smart Energy Metering over IOT using ESP8266. 5. Solar Tile Tracking system based on Azimuth and Elevation Angle. 6. Robotic Arm- Haptic control using Kinect. 7. Tracking and Avoidance of Cargo Pilferage using IoT. |
| **Achievements** | * Won Prize for **BEST DESIGN** in **Embedded Design Contest** organised by **EFY** * Paper Publications **National Conferences**: 5, International **Journals** : 2 * MATLAB Basic course in Udemy (Freelance Instructor). * Resource Person for Workshops and FDPs |
| **Certification** | * Certified in ‘**Embedded Systems and Peripherals’** from **Microchip India Pvt. Ltd.**, through Technosphere, Bengaluru. * Completed **Industrial internship** under **Anubhavi Automation** for 6 months. * Completed Online Courses on Coursera. |
| **Personal Details** | Father Name: Late. Ravindranath. C  DOB : 4th April 1986  Passport : K2691395  PAN : DNLPS6372G  Permanent Address: 103, 1st floor B block,, LIG-3, Block-8, Suryanagar Phase I, Suryanagar, Bengaluru, Karnataka 562106, India.  Present Address: 801 , 8th floor, Marol Pipeline Rd, Bori Colony, Kadam Wadi, Marol, Andheri East, Mumbai, Maharashtra 400059 |

**DECLARATION:**

I do hereby confirm that the information given above is true to the best of my knowledge.

**Date :**

**Place :** Mumbai  **Sandeep Singh. R**