Raj Santhoshi B

(Embedded / Firmware / IoT / C Developer)

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Career Profile / Objective :

Having an overall work experience of **4.8 years** as Embedded Developer in the Firmware, IOT and Automation Sector, working on various Embedded /Automation / IoT Projects. Keen to know advanced new technologies in Embedded & IoT and Quantom Technologies imprint sustained impact.

Academic Qualfications:

Qualification	Discipline	Institution / Place	University / Board	Year of Passing	Aggregate% /CGPA
B.Tech	Electronics and Communication Engineering	GMR Institute of Technology, Rajam.	JNTU Kakinada	2018	**First Class** 6.53 (CGPA)
Intermediate	Maths, Physics, Chemistry	Narayana Junior College	Board of Intermediate Education, A.P	2014	**First Class** 89.7%
SSC	Maths, Science, Social etc.	Suresh IIT Concept School	State Board	2012	**First Class** 9.2 (CGPA)

Technical Qualifications:

PG Diploma in Embedded Systems Design	Embedded Systems Design	C-DAC Hyderabad	Feb 2019 to Aug 2019	6 Months **Full Time Course**

VLSI Internship	Digital VLSI Design using HDL	C-DAC Hyderabad	June-Aug 2016	Successfully Completed Full Time Internship (Short Term Course)

WORK EXPERIENCE

Name of the working Organization ***:*** **UNISYS, Hyderabad, India**

- Period : August 2022 to June 2024
- Working as : Software Engineer, Embedded Developer.
- Name of the Department/Project : Quantum Computing, Nx/Services.

Tasks Performed:

- Quantum Computing Development: Working on POC's
- Aircraft Optimisation as a Full Stack Developer and builded few equations for the POC.
- Unisys One Engine - Completed integration of frontend and Backend. Started working on Quantum Equations. MCP Product Development:
- Integrated special pipes for the communication between protocols in the C programming language.
- Working on various latest feature developments in NX/Services using protocols like SMB, TCP/IP on the MCP Operating System.
- Developed gateway for the communication layer for for NX-Services.
- Developed various GUI's for NX-Services products using VB.Net.
- Wrote test cases and debugging server modules inAlgol.
- SonarQube integration in Jenkins for linting in C++, C#, VB.Net.
- Sonar Scanner integrations of the product codes.
- Worked on Building the entire product from scratch - NX/Develop. It includes NamedPipes, Sockets, GUI Development. Learning and Development:
- Participated on ADhoc Development program in the Quantum Optimisation Project.
- Worked on Windows API's and its migrations.
- Tools used - Jenkins, SVN, SonarQube, Wireshark, Sonar Scanner, GIT, Unisys internal tools.

Certified :

- Certified in D-Wave - Quantum Computing Program 101.
- Certified in Quantum Discrete Optimisation by Coursera

Name of the Organization : KEUS Automation, Hyderabad, India

- Period : July 2021 to July 2022
- Working as : Firmware Developer.
- Name of the Department/Project : Automation

Tasks Performed:

- Working on Automation of Products (IR Blaster, Embedded Switches, LED drivers, CV Strip Controller), Server Hub Coding using Typescript, Git)
- Working on Automation using C, Embedded C, Typescript, RTOS(Ti-RTOS) which includes protocols like ZigBee, BLE, TCP/IP, UART, SPI, I2C.
- Good knowledge in the Unit Testing for the entire product.
- Working on Windows as well as Linux Environment.
- Tools Used - Code Composer Studio, Eclipse, VS-Code, AnalysIR, GIT, Sensor Controller Studio
- Developing Application firmware for various IoT Automation Devices with Zigbee and BLE protocols using several Microcontrollers.
- Microcontrollers used: Ti CC2652(ARM Cortex M4), Ti CC2530(8051), Nuvoton Nano100 (ARM Cortex M0), Nuvoton Mini58 (ARM Cortex M0), ESP8266.

Name of the working Organization : CYIENT Limited (India)

- Period : Oct 2019 to June 2021
- Working as : Software Engineer – Embedded Developer.
- Name of the Department/Project : Bombardier Railways - TLD / PSE (Fleet).

Tasks Performed:

- **Device Machine Interface**: Worked on the entire Dashboard, Speedometer, Complete GUI and Complete Unit-testing.
- **Tele Diagnostics**: Worked on new features, Updates, Complete GUI, Bug fixes and Unit testing, Understanding the entire flow of the project.
- **Predictive Service Engineering**: Predicting the early bugs and updating the FM.(Includes QA)
- **Predictive Service Engineering**: Worked on Fleet monitor and Orbita Enterprise Tools for Quality Analysis for Cross Rail, LoTrain, SWR Fleets
- **Projects Worked on: DMI** - Development of Complete Dashboard, End to End Testing includes Unit and Device Testing. HMI - Developed GUI, End to End Testing includes Unit and Device Testing.
- **Tele Diagnostica** - Gateway Development.
- **Predictive Service Engineering** : Predicting the early bugs and update the FM. (Includes QA)
- Updating the code by writing new modules in C and C++.
- Manual Testing, C & Embedded C,
- Unit Testing – Tele Diagnostica, DMI and HMI
- Worked on Eclipse, Code composer studio and Visual Studio Platforms for writing the Code and Debugging.
- Developed GUI using WxForm Builder in C, C++.
- Worked on the libraries like wxWidgets, TinyXML2, MD5 Hash.
- Tools Used - Orbita Enterprise, Fleet Monitor, CAT, Maximo,

Projects Done:

• Automotive Vehicles Monitoring System Using CAN.	C-DAC, Hyderabad
• A Glove based Gesture Controlled Quad Copter at GMRIT.	GMRIT
• Performance Enhancement of a Hybrid I-bit Full Adder Circuit	GMRIT
• Advanced Encryption & Decryption Standard using Xilinx (Internship)	C-DAC, Hyderabad
• IoT Based Coal Mine Safety Monitoring & Alerting System (IoT Idea)	C-DAC, Hyderabad
• Bombardier Railway Project: (TLD Project / PSE Project QA / Unit Testing (TD, DMI, HMI).	**CYIENT, Hyderabad**
• Firmware Products (IR Blasters, Embedded Switches, Led Drivers, CV Strip Controller – Development, Unit Testing, Hardware Testing, Server Hub Coding using Typescript etc).	**KEUS Automation, Hyderabad**
• Nx/ Services(Client and Server based various products using the internal SMB Protocol on the MCP Operating Systems)	**UNISYS Hyderabad**
• Quantum Computing POC's –Aircraft Optimization • Unisys One Engine	**UNISYS Hyderabad**

C-DAC Project - Automotive Vehicles Monitoring System Using CAN.

- Tools used: GNU Toolchain, Gprof, Gcov, Gdb, Ltrace, Strace, Cppcheck.
- Compilations Tools: Makefile. Git, Avr-elf-gcc (AVR), Arm-elf-gcc (ARM)
- Hardware used: Arm-linux-eabihf-gcc (BeagleBone)
- CAN Protocol,TCP Protocol

Graduation Achivements:

Term Paper **:** "High Efficiency Video Coding (H.265 / MPEG-H)" .

Workshop & Seminars:

- Attended IC Engine Workshop (19th & 20th Feb 2016) organized by ARK Techno Solutions / Robokart in Association with IIT Madras.
- Participated Project Design Contest (27th Jan to 29th Jan 2017) on Glove Based Gesture Controlled Quard Copter organized by GMRIT (National Level Student Technical Paper, Project Context & Exhibition).
- Paper Presentation at ATMOS 2016 – Techno – Management BITS Pilani Fest, Hyderabad.
- Member in IT Projects Exhibition at GMR Inst of Tech.

Personality Traits / Interests & Hobbies:

- I can work under pressure and handle situations accordingly
- Methodological in nature and self motivational / I am eager to learn new things
- Reading Technical books/magazines.
- Dancing – Flashmob / College events / Hosting on the Stage / Dais.
- Coordinator - ISTE (GMR Inst of Tech).

Personal Profile

Name	**:** Raj Santhoshi Betha
Date of Birth	**:** 05/08/1997
Gender	**:** Female
Nationality	**:** Indian
Marital status	**:** Married
Languages known	**:** English; Telugu and Hindi / German (Basic -Learning).
Passport No	**:** R3006046
Communication Address	**:** D/o. Vara Prasad BSRK F No: 303, Sri Krishna Kunj, BK Guda Hyderabad – 500 038, Telangana State, India

Place: Hyderabad.

Date: **(Raj Santhoshi B)**