VISHWAS NAVADA B

OBJECTIVE

Hardware Design Engineer with experience in End-to-End Product Development Lifecycle including Requirements, Design Implementation, Review, Validation, Verification and Troubleshooting for High Speed and Embedded Designs. Been part of projects both in telecom/networking applications as well as in data center server applications. Seeking a relevant position in a respected and professional organization emphasizing innovation and creativity with quality exposure.

ACADEMIC QUALIFICATIONS

Examination	Year	Board/University	Percentage
B.E. - Electronics and Instrumentation	2013-2017	B.I.T Bengaluru /VTU	71.35%
PUC, PCME (Class XII)	2013	Viveka P U College Kota, Udupi.	89.50%
SSLC (Class X)	2011	Govt P U College, Koteshwara, Udupi.	90.68%

TECHNICAL SKILLS

- Expertise: Hardware design, System Architecture
- Feasibility Analysis-Power/Thermal/Mechanical
- High speed board design, Schematic entry, Cross-talk and SI analysis, PCB Stack-up, Layout CAD
- Design of FPGA/Microprocessor based circuits with peripheral interfaces,
- Verilog coding-FPGAs, STA
- BOM/Lifecycle management
- Experience with PowerPC/MIPS processors, Switch fabrics
- Experience with design softwares like DX Designer, Allegro PCB designer, Eagle, KiCAD etc.
- High speed transceivers: 10G/28G, optics: SFP+, CFP2, QSFP, OSFP High-speed Connectors
- Familiar on EMI/EMC, Compliance, DFM, DFT
- Board bring-up, functional testing, DVT measurements and validation
- Hands on experience operating Oscilloscopes and logic analyzers.
- Synchronization: Sync-E, 1588
- Manage complete life cycle of a product- Ideation, delivery and sustenance.

PROFESSIONAL EXPERIENCE

1) Working as **Senior R&D Engineer, EPG Hardware** with **Tejas Networks Ltd., Bangalore**   **(April 2019 to present)**

3+ years of strong exposure in high speed board design. Worked on different aspects of design during the complete lifecycle of products including schematics, SI, PCB Stack-up, Layout CAD, BOM/Lifecycle management, Board bring-up, functional testing, DVT measurements and validation amongst others. Implemented several FPGA based designs including Verilog coding and STA analysis. Tackled several critical field issues for major customer deployments with fast workarounds/fixes.

Projects undertaken:

- **Design and development for S-SF1, Fabric Card for TJ1900 platform**
  - This card performs cell based switching and is used as a Fabric Element for TJ1900 Spine Chassis, provides 53G SerDes interconnect (upto 9.6Tbps) to Leaf based subsystems.
  - Complete Schematics Design and cross-platform functional analysis.
  - Deciding PCB stackup, BoM management, SI and PI analysis, and assisting Layout team to meet all Hardware and manufacturing recommendations.
  - Verilog coding for CFPGA (Altera Cyclone V) and STA analysis for all necessary interfaces.
  - Complete bringup and testing of the card including traffic testing of 56G PAM4 links.
- **Design and development for IO-U3, OTN processor for TJ1900 OTN platform**
  - This card acts as an OTN Processor which can handle multiple 400Gbps optical inputs from devices like CFP2, QSFP-DD etc.
  - Complete Schematics Design and cross-platform functional analysis.
  - Verilog coding for CFPGA (Alter Cyclone V, Xilinx ZynQ 7000) and STA analysis for all necessary interfaces.
- **Design and development for the S-PSC, Power Supply Controller for TJ1900 platform**
  - This card controls multiple power supplies based on custom algorithm and load requirements.
  - Complete Schematics Design and cross-platform functional analysis.
  - Deciding PCB stackup, BoM management, SI and PI analysis, and assisting Layout team to meet all Hardware and manufacturing recommendations.
  - Verilog coding for CFPGA (Altera Cyclone V) and STA analysis for all necessary interfaces.
  - Complete bringup and testing of the card

2) Worked as a **Mixed Signal Design Engineer at Robert Bosch Centre for Cyber Physical Systems, IISc, Bengaluru (April 2018-March2019)**

- **Design and development of system for UWB based drone localisation**
  - Ultra Wide Band (IEEE 802.15.4-2011) based navigation and precision localisation of drones with an accuracy of 10cm
  - Design and development multi-layer boards for UWB navigation beacons- DWM1000
  - Autonomous charging pad for drones with precision landing
- **Piezo-electric effect based sensor-actuator design for haptic feedback in low power designs**
  - Piezo electric effect based sensor and actuator design in a single transducer in order to achieve low power haptic feedback system for future portable electronics.

3) Worked as a **Hardware Design Engineer at Openwater.in.pvt.ltd., IISc, Bengaluru (July 2017-April 2018)**

- **Design and development of automated industrial water treatment system**
  - Design and development of schematics, boards for controlling the process flow
  - C coding and embedded systems design for the control system
  - Development of algorithm for process failure detection and optimised power consumption
- **Design and development of Low Power Pulsed Power supply for waste water treatment**
  - Designed custom low power pulsed power supply for treating industrial waste water.

INTERNSHIPS

- **Flexible Electronics Lab, IAP, IISc, Bengaluru**   **(March 2017 to May 2017)**
  - **Wireless current and flow sensors**
    Designed custom wireless flow sensors and currents to monitor the vitals of the water treatment plant over the cloud.
  - **Design and development of the customised water treatment hardware**
    Designed custom hardware to generate low power electric field to settle waste and heavy particles in water.

UNDERGRADUATE AND HOBBY PROJECTS

- **Touch free retrofit switches for COVID-19 (7/2020-Current)**
  Retrofit module fits on existing switch board to turn on and turnoff the switches
- **Raksha (04/2020 – 06/2020)**
  Vitals monitoring wearable for early detection of COVID-19

- **Azure smart energy meter with IoT Locker (10/2019 – 11/2019)**
  Azure cloud-based smart energy meter that monitors the power
  consumption and works as a smart locker
- **Vega - Drone Health Monitoring Systems (04/2019 – 06/2019)**
  Predictive maintenance for drones using AI and pattern recognition of vibrations
- **Smart Soft Switch (11/2018 – 12/2018)**
  Infineon MOSFET SoftSwitch for Spark Free connection in Drones
- **Simultaneous Localisation And Mapping (SLAM) using drones (01/2017-05/2017)**
  Simultaneous Localisation and Mapping using a quadcopter and a Kinect Camera

ACADEMIC DISTINCTIONS AND PUBLICATIONS

- **Hardware Hackathons (04/2015 – Present)**
- Most practical use of AI@Brainium,
- Best healthcare application@ONSemi Hackathon,
- 1st @ Reimagine Waste, IISc,
- 1st @ Infineon hackathon,
- 1st@ ABB Makeathon,
- 1st@ CeBIT IoT Hackathon,
- 3rd @ MediaTekGlobal IoT challenge,
- Best Geek Group @ Mercedes Benz Hack.Bangalore
- **Robo Racing (01/2016 – 05/2016)**
- 1st @ Pravega, IISc, Aathmatrisha, PESU, NMIT fests.
- **Wrote an article about LoRa in Devopedia.org(06/2018 – 06/2018)**
  https://www.devopedia.org/lora
- **Quizzes and other competitions (05/2016 – 06/2017)**
- 2nd @ BrainBox Quizzing, 2nd @TCS Tech Bytes, 1st@ Wright Brothers,
  Semifinalist International Ericsson Awards
- **A talk on Opensource Electronics (07/2019)**
- Delivered a talk on opensource Electronics for 11th and 12th grade students at my alma mater Viveka Pre University College Kota.
- **Constant contributor to opensource articles (2015-Present)**
- Writes about opensource electronics and projects on Hackster.io, Instructables and on my website vishwasnavada.github.io
- **Robust and Scalable Techniques for TWR and TDoA based localization using Ultra Wide Band Radios (2018-2019)**
  Published a paper on UWB localisation techininque

EXTRA CURRICULAR ACHIEVEMENTS

- **Organised a tech fest for kids at GR Lavender Apartments, Kothnur, Begaluru (2016)**
  Organised a workshop on balsa wood glider, science quiz and DIY electronics workshops
- **Organised robo race competition at college fest (2016)**
- **Active member of college quiz group crossfire quizzing (2014-2017)**
- **Founding member of college Tech Club BIT-TECH (2016)**

INTERESTS

- Hardware Prototyping
- Hobby Electronics
- Product Design
- 3D Printing
- AI & ML
- Aerial Robots
- Battery Management Systems

CONTACT INFORMATION

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