NITHIN M

Phone : +918317390493, +919447995598
Email : mail.m.nithin@gmail.com

OBJECTIVE

To associate with a leading and ever growing organization and to utilize the skills I have acquired during my technological studies, in a productive and resourceful manner so as to achieve professional and personal growth.

SUMMARY

- 6 years of experience in Mixed Signal & High Speed Hardware Board Designing and complete product development of Pro-Audio Modules and Wearable Modules
- Working experience in FPGA, Processor and controller based circuit design of High Speed boards with DDR3, DDR4, RGMII, SPI, UART, I2C, SDIO, CAN, NAND Memory and Multi-Gigabit Interfaces
- Experienced in Mixed signal board design with Multi-Channel Audio ADC, DAC and I32S digital audio interfaces and digital audio clocking
- Main responsibilities held are,
  - Product requirement analysis and Hardware Architecture Design
  - Schematic Design with BOM creation
  - Pre-Layout SI simulations, PDN simulation and design analysis.
  - PCB Design Support including layout review and post layout SI, PI, Cross Talk and EMI Simulations.
  - Board bring-up, module level testing, System integration and System level testing.
  - Technical Documentation and product manual creation.
- Expertise in handling and operating of various Optical and RF Equipment's like Spectrum Analyzer, MSO, Arbitrary waveform generators, attenuators and Logic analyzer.
- Hands on Soldering Experience

TECHNICAL SKILLS

CAD Design Tools

- Mentor Graphics Xpedition – DxDesigner
- Cadence OrCad, Allegro.
- Altium Designer.
- Hyperlynx Simulation (LineSim & BoardSim).
- Polar Speedstack & Si-9000
- P-Spice, Tina-T Simulation

H/W Platforms

- FPGA – Arria10, Spartan-6, ZynQ-7000
- ADI SHARC DSP – SC587, SC584
- NXP - I.MX6Q, I.MX28,MPC8308 Processors
- STM32 Mixed signal controllers
- Cypress PSOC 5LP Processors
- NXP-LPC series µCs
- PIC µCs

PROFESSIONAL EXPERIENCE

- **Senior Hardware design Engineer**
  Harman International India Pvt Ltd.
  From May 2017 to Present
- **Senior Hardware design Engineer**
  inDSP Audio Technologies Pvt Ltd.
  From April 2016 to May 2017
- **R&D Engineer,**
  R&D Center, SFO Technologies
  From Nov 2012 to April 2016
- **Project Trainee Engineer**
  BitsForge Technologies Pvt Ltd.
  From Jan 2012 to Nov 2012

EDUCATION

2012	B-Tech in Electronics and Communication	College of Engineering Punnapra, Alappuzha. Kerala	76.5%
2008	Plus Two Science group	Govt.HSS, Punalur, Kollam	95 %
2006	SSLC	EVHSS, Edamon, Punalur	96 %

PROJECT DETAILS

- **Audio Mixer Console Boards**

  Design and development of different FPGA and DSP based audio processing modules with variety of communication interfaces. Most of the boards are with high end FPGAs like Intel Arria 10, Xilinx Spartan-6 and ZynQ 7000 series along with DDR4, DDR3 memory, 1/10 Gbps Ethernet with Alink, Dante and MADI interfaces to communicate with different mixer console modules.

  Tools used : Mentor Expedition DxDesigner (Schematic Entry), Xlayout (PCB Design),
  : Xilinx PI Tool (PI Simulation), Hyperlynx (SI Simulation), Polar Speedstack (PCB stackup design)
  Project Role : Senior Electrical Engineer

- **Compact Pro-Audio processing Module**

  Design and development of compact Pro-Audio processing module with AVB functionality. The system was built around Analog Devices latest SHARC DSP ADSP-SC587. The System includes 2 Gb of DDR3 RAM, MicroSD card interface and Gigabit Ethernet with AVB Functionality and 6 channel HD Audio interface.
  Tools used : Altium Designer (Schematic Entry), Altium Designer (PCB Design)
  Project Role : Module Lead Electronics

- **Automotive Optical Fuel Sensor with Bluetooth connectivity**

  The design and development of an automotive optical sensor and control board to sense the properties of fuel with the help of light reflecting properties of various nano-particles. The sensor is designed around a violet laser and high sensitive photodiodes. The control module is built around LPC2364 controller. The controller communicates to the ECU via CAN interface. The sensor module also includes a BT MCU CC2540T for wireless connectivity.

  Tools used : OrCad CIS (Schematic Entry), Allegro (PCB Design)
  Project Role : Module Lead Electronics - Requirement Study, Techno commercial proposal, Hardware architecture and Design, DFMEA preparation, Passing design inputs to Mechanical and PCB design team, Technical documentation, System integration and testing.

- **Medical - RF communication Module**

  Design and development of a Medical RF communication module to be used with electronic surgical staplers used in operation theater. The RF module communicates with the surgical staplers via WI-Fi and displays the data in both OR monitor and inbuilt 7" LCD display. The data will be simultaneously updated in the cloud via W-FI and Ethernet. The hardware includes I.Mx6 quad core processor, DDR3-RAM, eMMC NAND, two Wi-Fi modules with Bluetooth 4.0 BLE, Gigabit Ethernet, HDMI and LVDS for LCD.

  Tools used : OrCad CIS (Schematic Entry), Allegro (PCB Design), Freescale tools: IOMUX, MFGTool
  Project Role : Module Lead Electronics

- **Fiber Network Security system**

  Research and Development of patented Fiber optic monitoring system. The system is designed for physical layer monitoring in optical fiber links with patented Wave-Sense algorithm. The system is built around i.Mx28 processor. The system also has 10/100/1000 Mbps FX support over 4 SFPs. The hardware also includes eMMC, NOR Flash, dedicated analog front end for detecting the nano-watt level optical power monitoring.

  Tools used : OrCad CIS (Schematic Entry), Allegro (PCB Design).
  Project Role : HW design engineer Electronics

- **Portable Optical Blood Analyzer**

  The design and development of a portable blood analyzer with optical signals and dedicated signal processing. The system is built around dsPIC and dedicated optical engine. The system can measure various properties of blood by a Lock in Amplifier method. One Red laser and 4 high sensitivity photodiode makes the measurement more accurate.

Tools used : OrCad CIS (Schematic Entry), Allegro (PCB Design).
Project Role : Design Engineer- Electronic & Photonics.

- **Wearable Glucose meter with Bluetooth connectivity**

  The design and development of a wearable Glucose meter module. The module was intended for non invasive measurement of glucose content in human blood by means of light absorption property of human blood to light with different wavelengths. The optical engine was the core part which consists of 7 LEDs and a high sensitivity photodiode. The whole system is built around the BT MCU CC2540.

  Tools used : OrCad CIS (Schematic Entry), Allegro (PCB Design).
  Project Role : Design Engineer- Electronics & Photonics.

- **Compact RF module for Blind navigation**

  The system was designed to give route navigation for blind people with voice guidance. The module is built around PIC16F877A MCU. The module includes voice recognition, GPS navigation, Ultrasonic sensors for collision avoidance and voice guidance with localized map navigation.

  Tools used : OrCad CIS (Schematic Entry), MPLab IDE (Programming)
  Project Role : Design Engineer- Electronics

ACHIEVEMENTS

- Coordinator of College level technical innovation Lab - Innovia
- An active member in coordinating Enthuzia-2K11 and Tech Fest 2011 at CEMP Alappuzha.
- Sate Level Science fair winner for Science project and Science still model.

PERSONAL DETAILS

Date of Birth	: 30th October 1990
Nationality	: Indian
Hobby	: Cricket, Music
Languages Known	: English, Malayalam, Hindi, and Tamil

DECLARATION

I hereby declare that all the information furnished about me is correct to the best of my knowledge

Note.
References are available on Request

Nithin M
11-12-2017