SHANTANU SURESH DESHPANDE

FULL STACK HARDWARE ENGINEER | SENSOR SIGNAL PROCESSING | TECHNICAL PROJECT MANAGEMENT | DATA ANALYSIS AND VISUALIZATION

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SUMMARY

- An innovative engineer specializing in projects at the intersection of hardware and software with 4+ years of experience in hardware development lifecycle – from concept through product delivery of cutting-edge connected consumer hardware solutions.
- Experience in systems development methodologies (FMEA, 8D), EE Digital tools (OrCad, Altium, PSpice), Design for Manufacturing, Test & Assembly, Measurement Equipment (NI DAC, Logic analyzers, DMM, Scopes) and processes contributing to rollout of three successful projects.
- Hands-on experience in H/W prototyping, bring-up, debugging and manufacturing support of Embedded systems
- Agile focused, lean program management leader with the acumen to see business and technical sides of a problem.
- Demonstrated cross-functional leadership with the ability to rapidly acquire technical skills while having a drive to experiment - learn - iterate.

EXPERIENCE

Technical Program management (Hardware/Software), Co-Op

LIMIT INC | June 2018 - Present

- Managed technical projects to ensure they are on track, within scope and completed in a timely manner using tools like JIRA, Trello & Tableau.
- Drove an inter-disciplinary team of engineer's in activities from system architecture to hardware-firmware design, bring-up and systems integration.
- Collaborated with cross-functional teams to create Gantt charts/WBS for hardware/firmware sub-systems while gauging project risks and to implement possible resolution.
- Managed Product BOM using PLM applications while interfacing with suppliers, ODMs & CM Partners.
- Communicated the project progress, insights, key results with internal and external stakeholders.

Graduate Research Assistant

University of Washington, Ubiquitous Computing Lab | Dec 2017 – Present

- Brainstorming and Rapid prototyping of ideas in Spatial Interaction techniques & Wearable sensing techniques.
- Responsible for circuit design, schematics, PCB Layout/soldering/rework, Embedded F/W, MCAD, functional verification, sensor characterization & visualization.
- Managed component selection, part tracking while following-up with PCB fab house for smooth builds.

Head of Embedded Products (Founding team)

Fracktal Works Pvt Ltd, India | Jul 2014 – Jul 2017

- Designed Schematics and PCB Layout, Data gathering to characterize sensors, SoC firmware (C, C++), calculations and simulation of digital & analog electronic circuits to verify its conformance to the design specification.
- Designed, build and test rapid prototypes for evaluation of new product ideas and technology concepts.
- Conducted and coordinated design/debug investigations to support engineering deliverables, efficient failure analysis test plans and resolution activities.
- Developed project documentation, schedules and specifications based on product requirements, technical challenges, and business needs.

- Liaison with multiple internal and external stakeholders (F/W, Mechanical, Vendors) to maintain project schedule while sustaining team focus.
- Negotiated with vendors to minimize BOM cost while working closely with contract manufacturers to maintain quality of the products.
- Developed a concise presentation to communicate the electrical design and its progress to various stakeholders.

Hardware Design Intern

Sirena Technologies Pvt Ltd, India | May 2014 – July 2014

- Developed firmware for sensors (IR, IMU, Force, Camera) and SoC characterization.
- Schematic design, PCB layout, Hardware bring-up for flagship humanoid platform – NINO.

Summer Engineering Intern

Mahinda Electric Mobility Limited, India | May 2013 – July 2013

- Design and testing of the battery pack cooling system of mReva e2o model.
- Prototyping of liquid & solid-state cooling battery technology while conducting field validation test.
- Prototyping and interfacing (with vehicles) next-generation vehicle telematics system.

EDUCATION

University of Washington, Seattle, WA, USA

Master of Science in Electrical Engineering | Sep 2017 – Present

Specialization - Embedded systems | Hardware-Software design

Course Work:

Fundamentals of EE, Linear control systems, Embedded and Real-Time Systems, GPU Accelerated 3D-Data Visualization, Ubiquitous computing, Design of Digital and Mixed-signal Subsystems for Complex Multi-domain Applications, Modern Mobile System, Intro to AI, Systems engineering & project management, Hardware/Software Interface*, Software Engineering for Embedded Applications*

* In Plans

University of California Berkeley Extension

Professional Certificate in Project Management | Jun 2018 – Present

Manipal Institute of Technology, Manipal, KA, India

Bachelor of Engineering in Mechatronics Engineering | Jul 2011 – May 2014 **|** CGPA: 3.74/4

Specialization - Embedded systems

K.H.Kabbur Institute of Technology, Dharwad, KA, India

Associate of Engineering in Mechatronics Engineering | Jul 2008 – May 2011 **|** CGPA: 4/4

TECHNICAL SKILLS

Design tools: Altium, OrCAD, Eagle, PSpice A/D, SolidWorks, Inventor, Illustrator & Photoshop.

Analysis tools: MATLAB, Minitab, Tableau, LabView, NI Virtual Bench, DAQ, Logic Analyzer, Scope, DMM.

Platform & Architecture: Raspberry Pi, Arduino, MSP430, CC2650, DragonBoard 410c, FPGA, ARM, AVR, PIC.

Technologies: PWM, I2C, UART, SPI, CSI, DSI, I2S, USB, JTAG, Bluetooth, ADC, Wi-Fi, Sub 1-Ghz, GPS, NFC, Power topology.

Programming Languages: C, C++, Python, VHDL, R.

Fabrication: Hand soldering (QFN Package) & Reflow, PCB Manufacturing & Fabrication Processes, PCB Rework, 3D Printing, CNC Machining, Laser cutting.

Management: BOM Management, Agile Project Management, WBS, Risk Management, Cross-Functional Leadership, Document management, Vendor/OEM/ODM/CM Management, Concise presentation and communication skills.