

# VISHAL BABU

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## Work Experience

### Hardware Design Engineer (present)



- Responsible for system level design including circuit design, integration and debug for a wearable device to assist the blind
- Optimized CSI and I2C bus protocols for multi-layer PCBs and flex-rigid PCBs
- Improved signal integrity on haptics driver to maximize power throughput and efficiency of the haptics motor

### Test Engineer (Sept. - Dec. 2015)



- Advanced a custom part library on Zuken and Altium by adding 50 new components used by teams across the organization
- Designed and built fully-automated test systems and procedures for Model X, and Tesla Energy/Battery products
- Performed component level thermal/electrical testing and validation

### Quality Engineer (SQE) (Apr. - Aug. 2014)



- Developed new fixtures and IPQC test methods for process validation (SPC, Cp, CpK). Implemented designs in overseas factories
- Actualized new testing methods to lower escape rate in iPhone enclosure production by 60%
- Formulated surface measurement parameters to improve the quality of iPhone 6 surfaces

### Wireless Protocol Engineer (Sept. - Dec. 2013)



- Responsible for automating and refining network specific (GPRS/EDGE/UMTS/LTE) test scripts on simulated cell towers
- Analyzed and debugged L2 and L3 communication protocol issues for BlackBerry native platforms
- Identified system-level integration issues with radio protocols (Fast Dormancy, CMAS, Handovers, etc)



## Skills

**Technologies:** PCB Design, Signal Integrity, Automated Test Systems, Wireless Systems, DFM/DFT

**Languages:** C++, Python, Java, Shell Script, Ruby on Rails, SQL, Swift, MATLAB, HTML, CSS

**Frameworks:** Altium, Zuken, AutoCAD, SolidWorks, JMP, Octave



## Education

### Systems Design Engineering

(Sept. 2012 – Apr. 2017)

University of Waterloo (Waterloo, Canada)



## Projects

**Patent Holder:** Inventor of a non-invasive preventative vaccine delivery solution (Formulation V720: WO2012024767 - Google Patents Code)

**URA:** Designed an optical sensor to improve and maintain a healthy hydration level of an individual by analyzing liquid body waste

**Kalos:** Built an exercise station using an IMU and a custom-made pressure pad to assist users in performing exercises without obtaining muscle injury

**Automated Shopping Cart:** Prototyped a new shopping cart that automatically scans items as they are placed in the cart using RFID technology



## Hobbies

Snowboarding, Guitar, Tennis, Learning new languages