Vaibhav Murali

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OBJECTIVE Interested in the field of ***Instrumentation*** and ***Electrical & Electronics (EE) Engineering***

EDUCATION

University of Southern California (USC) **CGPA: 3.6/4.0**
Master of Science (M.S.), Biomedical Engineering (EE Emphasis) May 2019

SSN College of Engineering, Anna University **CGPA: 8.01/10.0**
Bachelor of Science (B.E.), Biomedical Engineering June 2017

TECHNICAL SKILLS

Languages C, C++, Python, Bash Programming
Software Atmel Studio, MATLAB, LABVIEW, LT-Spice, Eagle, Cadence Virtuoso, KiCAD
Hardware Oscilloscopes, Signal Generator, Soldering, DAC, ADC, DMM
Platform Arduino, Intel 8051, Cadence Allegro, MSP 430, Solidworks, PIC, Raspberry Pi

EXPERIENCE

Electronics Engineer **June 2019 -Present**
NOWDx Instrument Division (NID) **Los Angeles, CA**

- Develop electrical schematics (*EMI & ESD safe*) for medical application
- Design of PCBs (Rigid & Flex, Multilayer PCBs) using *Eagle* & *Cadence Allegro*
- Creating test environment by making PCBs in-house using *thru-hole* & *SMD* components
- Verification and validation of PCBs using *Python* & *Bash programming*
- Debug & troubleshoot electronic circuits using *DMM* & O*scilloscope*
- Writing technical documents according to *FDA* & *ISO Standard*
- Work closely with Quality team in support of *Quality Management Systems (QMS)*

Engineering Intern **January 2019 – May 2019**
NOWDx Instrument Division (NID) **Los Angeles, CA**

- Test Assembly/ PCBs using *Python* & *Bash programming*
- Responsible for technical data collection & reporting issues to project manager using *JIRA*

Graduate Teaching Assistant **August 2018 – May 2019**
University of Southern California **Los Angeles, CA**

- Setup, monitor, grade exams for *Instrumentation* & *Signal Processing* courses
- Take classes for engineering graduate students

PROJECTS

Cast Simulator

- Designed a model arm embedded with temperature and pressure sensors to provide real-time feedback to surgeons
- Worked in collaboration with Children's Hospital Los Angeles (CHLA)

Design of Artificial Neuron

- Implemented Mealy Machine circuit using Cadence Virtuoso
- Design involved flipflops & compound gates to replicate the firing of neurons

Laboratory Model of a Low-Cost Dialysis Machine

- Headed a team of three to model a low-cost dialysis machine using refurbished materials & cost effective electronic components
- Engineered a machine that performs basic operations such as monitoring pressure, temperature & detecting air bubbles present inside blood drawn from patient

COURSEWORK

Graduate MOS VLSI Circuit design, BIO-MEMS and Nanotechnology, Applied Electrophysiology, Bioinstrumentation, Ultrasonic Imaging, Signals & Systems

Undergraduate Bio-Optics, Digital Image Processing, Analog and Digital Integrated Circuits, Neural Networks, OOPS & Data Structures, Biomechanics, Sensors & Measurements