

# Vaibhav Murali

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<b>OBJECTIVE</b>	<b>Interested in the field of Instrumentation and Electronics Engineering</b>	
<b>EDUCATION</b>	<b>University of Southern California (USC)</b> <i>Master of Science (M.S.), Medical Device and Diagnostic Engineering</i> <b>SSN College of Engineering, Anna University</b> <i>Bachelor of Engineering (B.E.), Biomedical Engineering</i>	<b>CGPA: 3.6/4.0</b> Expected May 2019 <b>CGPA: 8.01/10.0</b> June 2017
<b>TECHNICAL SKILLS</b>	<b>Languages</b> C, C++, Python, Bash Programming <b>Software</b> Arduino IDE, Atmel Studio, MATLAB, LABVIEW, LT-Spice, Eagle, Cadence Virtuoso <b>Hardware</b> Oscilloscopes, Signal Generator, Soldering, DAC, ADC, DMM, Electrical Safety Analyzers <b>Platform</b> Arduino, Intel 8051, Cadence Allegro, TI MSP 430, Solidworks, PIC, Raspberry Pi, BioRadio	
<b>EXPERIENCE</b>	<b>Electronics Engineer</b> <b>NOWDx Instrument Division (NID)</b> <ul style="list-style-type: none"><li>Design of PCBs (Rigid &amp; Flex, Multilayer PCBs) using Eagle &amp; Cadence Allegro</li><li>Creating test environment by making PCBs in-house using through-hole &amp; SMD components</li><li>Verification and validation of PCBs using Python &amp; Bash programming</li><li>Debugging electronic circuits using DMM &amp; oscilloscopes</li><li>Writing documents according to 21CFR820 standard.</li></ul> <b>Engineering Intern</b> <b>NOWDx Instrument Division (NID)</b> <ul style="list-style-type: none"><li>Responsible for testing of PCBs using python &amp; bash programming. Also, responsible for collecting data &amp; reporting issues to project manager</li></ul> <b>Graduate Teaching Assistant</b> <b>University of Southern California</b> <ul style="list-style-type: none"><li>Assisted in setting up, monitoring, grading exams &amp; laboratory experiments in instrumentation laboratory and signal processing laboratory. Also, taken classes for engineering graduate students</li></ul> <b>Laboratory Student- Digital MOS VLSI</b> <b>University of Southern California</b> <ul style="list-style-type: none"><li>Design of circuits involving area, delay &amp; power minimisation. Includes design, layout, extraction, simulation &amp; automatic synthesis</li></ul>	June 2019 Los Angeles, CA        April 2019 Los Angeles, CA     August 2018 Los Angeles, CA   August 2018 Los Angeles, CA
<b>PROJECTS</b>	<b>Cast Simulator</b> <ul style="list-style-type: none"><li>Designing a model arm embedded with temperature and pressure sensors to provide real-time feedback to surgeons</li><li>Working in collaboration with Children's Hospital Los Angeles (CHLA)</li></ul> <b>Design of Artificial Neuron</b> <ul style="list-style-type: none"><li>Implemented Mealy Machine circuit using Cadence Virtuoso</li><li>Involved flipflops &amp; compound gates to replicate the firing of neurons</li></ul> <b>Laboratory Model of a Low-Cost Dialysis Machine</b> <ul style="list-style-type: none"><li>Headed a team of three to model a low cost dialysis machine using refurbished materials &amp; cost effective electronic components</li><li>Engineered a machine that performs basic operations such as monitoring pressure, temperature &amp; detecting air bubbles present inside blood drawn from patient</li></ul> <b>Design of ultrasound airflow transducer</b> <ul style="list-style-type: none"><li>Developed an ultrasound transducer model in LT SPICE and simulated it</li><li>Replicated model for three flow rates and observed linear relationship of volume over time</li></ul>	
<b>COURSEWORK</b>	<ul style="list-style-type: none"><li><b>Graduate:</b> MOS VLSI Circuit design, BIO-MEMS and Nanotechnology, Applied Electrophysiology, Bioinstrumentation, Ultrasonic Imaging, Signals &amp; Systems</li><li><b>Undergraduate:</b> Bio-Optics, Digital Image Processing, Analog and Digital Integrated Circuits, Neural Networks, OOPS &amp; Data Structures, Biomechanics, Sensors &amp; Measurements</li></ul>	
<b>WORK AUTHORIZATION</b>	<ul style="list-style-type: none"><li>Eligible to work in the United States of America under Optional Practical Training (OPT)</li><li>Would require H1B visa sponsorship</li></ul>	