

Vaibhav Murali

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OBJECTIVE	Interested in applying and developing my knowledge through a full-time role in the field of <i>Instrumentation</i> and <i>Electrical & Electronics (EE) Engineering</i>	
EDUCATION	University of Southern California (USC)	CGPA: 3.60/4.00
	Master of Science (M.S.), Biomedical Engineering (EE Emphasis)	May 2019
	SSN College of Engineering, Anna University	CGPA: 8.01/10.0
TECHNICAL SKILLS	Bachelor of Science (B.E.), Biomedical Engineering	June 2017
	Languages C, C++, Python, Bash Programming	
	Software MATLAB, LABVIEW, LT-Spice, Eagle, Cadence Virtuoso, Ki CAD, OrCAD	
EXPERIENCE	Hardware Oscilloscopes, Signal Generator, Power Supplies, DAC, ADC, Multimeter	
	Platform Arduino, Intel 8051, Cadence Allegro, MSP 430, Solidworks, PIC, Raspberry Pi	
	Electronics Engineer	June 2019 - Present
PROJECTS	NOWDx Instrumentation Division (NID)	Los Angeles, CA
	<ul style="list-style-type: none">• Develop electrical schematics for medical application according to IEC 60601-1 standard• Design of PCBs (Rigid & Flex, Multilayer PCBs) using Eagle & OrCAD• Devise and review the Bill of Materials (BOM) and coordinate with external vendor for PCB fabrication• Rework thru hole & SMD components on in-house PCBs• Verification and validation of PCBs using Python• Debug & troubleshoot electronic circuits using Digital Multimeter (DMM) & Oscilloscope• Write Design and Development documents according to FDA 21CFR820• Work closely with Quality team in support of Quality Management Systems (QMS) according to ISO 13485 standard• Utilize Failure Mode Effect Analysis (FMEA) and Fault Tree Analysis (FTA) as tools for project risk analysis• Maintain Risk Management File (RMF) according to ISO 14971 standard	
	Electronics Engineer (Internship)	January 2019 – May 2019
	NOWDx Instrumentation Division (NID)	Los Angeles, CA
	<ul style="list-style-type: none">• Test Assembly PCBs using <i>Python & Bash programming</i>• Responsible for technical data collection & reporting issues to project manager using <i>JIRA</i>	
	Cast Simulator	
	<ul style="list-style-type: none">• 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	
	<ul style="list-style-type: none">• 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	
	<ul style="list-style-type: none">• Headed a team of three to model a low-cost dialysis machine using refurbished materials and 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