Pavan Umesh
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EDUCATION

Northeastern University, Boston, MA. **GPA- 3.773** **May 2025**
Microsystems, Materials and Devices, Master of Science in Electrical and Computer Engineering
Coursework: Organic & Printed Electronics, Electronic Materials, Micro and Nanofabrication, Solid State Devices, computer Architecture, Analog Integrated Circuit Design.

SJC Institute of Technology, Bengaluru, KA, India. **CGPA: - 8.02/10** **June 2023**
Bachelor in Electronics & Communication Engineering
Coursework: Embedded Systems, Digital Communication, Analog Circuits Design, Network Theory, Wireless and Cellular Communication, Real-time Systems, VHDL, FPGA, electrical systems, Computer Architecture, Semiconductor device physics, VLSI fundamentals.

SKILLS

Programming language: C, C#, C++, R, Verilog, System Verilog, VLSI, VHDL, JMP, Python, Ruby, Java.
Software: LabVIEW, Arduino IDE, Virtuoso, KiCad, Origin, Matlab, Cadence Allegro, VHDL, Unix, Altium, PSpice, MATLAB, CAD, AutoCAD, Raspberry Pi, Cadence OA, SolidWorks, Revit.
Laboratory experiences: Clean Room- chip Design, Mask Design, Board/ circuit layout design, Understanding CMOS, components, PCB assembly, and Schematics. Nano-Technology Lab- Battery design and testing using DAQs prototypes, Power distribution, and troubleshooting.

PROFESSIONAL EXPERIENCE

Intern, **Infonex Technologies, Mysore, KA, India.** **September – December 2022**

- Developed a simulation setup to test on microcontroller, using LabVIEW and NI hardware.
- Led efforts to design and implement test strategies for automated testing in the EV battery production line.
- Worked on designing the setup for the testing, analyzing the required test strategy, and implementing this strategy in a setup to automate the testing process in a production line.

Intern, **Nano-Technology Lab, VTU Research Center,** Muddenahalli, India**.** **May – August 2022**

- Characterized materials to check their compatibility and understand their structure utilizing X-ray diffraction, and scanning electron microscope, spectrophotometer, microscope, KSR-4 Four-Point Probe.
- Utilized Instruments like tubular furnaces, cyclic voltammetry setups, and Oscilloscopes, to increase their sustainability.

PROJECTS

Spin-Orbit Torque Magnetoresistive Random Access Memory, NEU. **September – December 2023**

- Researched SOT-MRAM and its advantage over other RAMs to minimize the size and power consumption.
- Researched RAM's function and how it works, with the help of the studies conducted and combining diverse technology to improve its functionality.
- Analyzed M-RAM for their drawbacks and worked on resolving the problems.

Water testing and treatment using IoT, SJCIT. **December 2022- June 2023**

- Collected data from the water bodies about their quality and repeatedly tested the water body.
- Analyzed water quality testing methods, with the help of sensors, and documented the results.
- Worked on Determining the system's design, so that the setup can be in constant contact with the test subject and perform Data Analytics, and Data Acquisition.

Real-time assistive shoe for visually impaired people, SJCIT. **November 2019 – August 2020**

- Designed specialized shoes for visually impaired people with the help of sensors and audio instruction.
- Led efforts in R&D for innovations that could boost the project outcome.
- Worked on designing the setup so that it fits onto a regular shoe and reduced its weight, utilized PSpice.