

Sujeet Kumar Maurya

Micro-Electronics and VLSI Design



+91 9532676795
ksujeet973@gmail.com
sujeetkumarmaurya.github.io
in skmaurya94
sujeetkumarmaurya

Education

- 2020–Present **M.Tech**, *Indian Institute of Science (IISc)*, Bengaluru, **Result: 9.1/10 (3 Semesters)**
Analog VLSI, Digital VLSI, FPGA using VHDL, Processor System Design, Embedded System-I, Mathematics for Electrical Engineering
- 2013–2017 **B.Tech**, *Gandhi Institute of Engineering & Technology (GIET)*, Gunupur, **Result: 8.73/10**
Electronics & Communication Engineering.
- 2012 **Intermediate (+2)**, *Devvani Intermediate College*, Chhitauni, Lohta Varanasi, **Result: 67%**
Science - PCM.
- 2010 **Matriculation**, *Devvani Intermediate College*, Chhitauni, Lohta Varanasi, **Result: 82.33%**
Science.

M.Tech. Project

Title *Machine Learning Method to Set Scan Compression Target for Optimal Test Data Volume*

Description With an increase in the number of transistors in a SOC, it is challenging to test each transistor, which increases testing cost (40-45% of the total chip cost). This project aims to develop an ML model that figures out the best compression ratio for a design to yield optimal coverage with optimal Test Data Volume (TDV). Hence, the cost of testing can be optimized.

M.Tech. Course Projects

Title *RISC-V Processor Design on FPGA (With Stalling and Forwarding units).* — VHDL, Vivado.

Title *ASIC implementation of Neural Network (NN) for handwritten digit recognition.* — Verilog, Cadence Tools.

Title *UART Design on FPGA.* — VHDL, Vivado

Title *Maze, without having any prior information about it, navigation using Reinforcement Learning.* — Python.

Title *Autonomous Parking System, which guides the driver to the available parking slot through the shortest path, using Cortex® M4 Microcontroller.* — Embedded C.

B.Tech. Project

Title *Solar Powered Biometric Attendance Device With Remotely Operation & Safety System.*

Description Due to lack of electricity in the rural area the monitoring of the services offered is been poor. This device has been provided with a dual-mode of power (conventional electricity + solar power) to help improve the quality of service offered mainly in rural areas by enhancing the monitoring mechanism. This device uses GSM to regularly send a report to the higher authority based on biometric identification.

Experience

June 2021 - **Intern in Digital Domain**, *Texas Instruments*, Bangalore, India

June 2022 Learning Outcome:

- Industry adopted Genus and Modus tool flow for Design for Test (DFT) and its operation on some real circuits.
- Stuck-at Faults and Transition Delay Faults.

June 2017 - **Assistant System Engineer**, *TATA Consultancy Services*, Hyderabad, India

- Feb 2019
- Recognized as the best team-player and learner during training.
 - Awarded with LIREL award for collaborating with colleagues.

Languages

- | | | |
|-----------------------|----------------------|--------------------|
| Verilog: Intermediate | C: Basic | HTML: Intermediate |
| VHDL: Intermediate | Python: Intermediate | CSS: Intermediate |

Computer skills

Application: MATLAB, Octave

Simulation: Virtuoso-IC, Vivado

CAD: Cadence Genus, Cadence Modus

Documentation: MS Office, Libre Office, \LaTeX

Interests

ML & DFT Machine Learning (ML) to analyse the data for design for test (DFT) in VLSI.

RTL Design Motivated to explore RTL design in VLSI.

Achievements

- Secured AIR 40 in GATE-EC 2020
- LIREL Award, TATA Consultancy Services.
- Secured 2nd Position in B.TECH in my batch.
- Winner of intercollege Autonomous Robotics Competition 2014 & 2015, G.I.E.T. Gunupur.
- 1st Runner up in intercollege Autonomous Robotics Competition 2016, G.I.E.T. Gunupur.
- 1st Runner up in Circuit-Design, Tech Expo-2k16, G.I.E.T. Gunupur.
- 1st Runner up in intercollege Robotics Competition, Technophilia System.
- Hindustan Pratibha Samman, Hindustan Press Media.

References

IISc

- Dr. Chetan Singh Thakur

G.I.E.T.

- Mr. Lakkoju Siva Prasad Rao
- Dr. Subodh Panda

Extra Curricular

- Co-ordinated National Seminar on Communication Control & Instrumentation- NSCCI 2015, G.I.E.T. Gunupur.
- Co-ordinated several cultural events, G.I.E.T. Gunupur.
- Love to play music keyboard.
- Love to play Badminton and Cricket.