RITIKA ROY

Available for Immediate Joining | Ghaziabad, 201009 | ritika.roy8900@gmail.com| +91 9717012215 | www.linkedin.com/in/ritikaroy01 | https://github.com/ritikaroy01

SUMMARY

I'm an Electronics Engineer passionate about designing and innovating digital systems. With hands-on experience in Verilog, Vivado, SystemVerilog, MATLAB and previous experience with graphics design & engineering design. I aim to apply my creativity and technical skills in VLSI design and verification roles.

EDUCATION

GALGOTIAS COLLEGE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA, INDIA **2024**
Bachelor of Technology in Electrical and Electronics Engineering **(63%)**

SUNBEAM ENGLISH SCHOOL, VARANASI, INDIA **2019**
12th in Physics, Chemistry, and Mathematics **(83.8%)**

SUNBEAM ENGLISH SCHOOL, VARANASI, INDIA **2017**
10th **(91.2%)**

PROFESSIONAL EXPERIENCES

Pearce Services Global Pvt. Ltd. – Engineering Assistant **June 2024 – April 2025**

- Worked on Fiber Optic distribution design and infrastructure planning.
- Used **AutoCAD Map** and **ArcGIS** for layout planning, enhancing spatial skills relevant to PCB Design.
- Collaborated with cross-functional teams for timely execution of network infrastructure projects, developing strong **project management** skills.

Kaynes Technology India Ltd. – Engineering Trainee (PCB & Micro Soldering) **Aug 2023 – Sept 2023**

- Specialized in **micro soldering** and **component-level PCB repair** (multilayer PCBA).
- Applied **reverse engineering** techniques for fault diagnosis on unknown PCBs.
- Implemented **Bare-Metal Post-Silicon** Validation Techniques for troubleshooting.

Highclouds STEM Technologies Pvt. Ltd. – Graphics Designer **Jul 2022 – Dec 2022**

- Designed UI and 3D website models; worked with **Blender**, **Figma**, and **Adobe Suite**.
- Developed brand-aligned visual assets and interactive website components, relevant for design documentation.

CERTIFICATIONS

- **Learning FPGA Development** – Covered FPGA Fundamentals, Digital Logic Design Implementation, STA, & Configuration.
- **Learning Verilog for FPGA Development** – Learned about RTL Coding, Simulation Techniques, & Test bench.
- **BRBRAITT Vocational Training, Jabalpur** – Covered core concepts in **Optic Fiber**, **MIMO**, **Switching & Signaling.**
- **UC MAS Abacus Graduate** – Enhanced mental arithmetic and speed problem-solving skills

RESEARCH PUBLICATIONS

Advanced Fault Detection in Cascaded H-Bridge Multilevel Inverters with LS-PWM Control

- This Paper worked on a unique technique for detecting an open-circuit issue in cascaded H-bridge multilevel inverters (CHBMLIs), using its level-shifted pulse width modulation (LS-PWM) technology.

Multilevel Inverter: A Review

- This paper gives a study and examination of multi-level topologies, & various control techniques for modulation.

PROJECTS

Step Counter

- Developed a model to count the number of steps covered by the user.
- Trained the model with the help of Microbit and Python Programming.
- Calculated the accurate steps taken by the user leading to understanding of Sensor Integration & Data Processing.

Multilevel Inverter

- Worked on Hardware and Software Simulation using MATLAB.
- Comparing the Total Harmonic Distortion (THD) of 7 Level and 11 Level Inverter.
- Technologies used: Arduino UNO, MATLAB.

Advanced encryption standard (AES128, AES192, AES256) Encryption and Decryption Implementation in Verilog

- Designed and implemented AES-128 encryption in Verilog HDL as part of a self-initiated learning project.
- Gained hands-on experience in digital logic design, RTL coding, and simulation using Vivado.
- Developed and verified AES encryption core using VHDL and verified using SystemVerilog, ensuring functional correctness.

SoC to I2P Protocol Converter

- Designed a protocol converter from SoC to I2P using Vivado.
- Used IP Integrator for system design, while addressing signal integrity, UVM and simulated the frameworks.
- Verified SoC interface protocol conversion using SystemVerilog, ensuring protocol compliance.

TECHNICAL SKILLS

- PCB Soldering (THT/SMT), Synthesis & Simulation, Verification Methodology, Digital Logic Design, C/C++, Python, Circuit Simulation, SystemVerilog/Verilog/VHDL, UVM, PCB Design, Arduino, Microbit, AutoCAD.