

Saksha Poojari

Electrical | VLSI Design | FPGA | Embedded | Engineer

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SUMMARY

Electrical Engineering graduate with expertise in **VLSI design, embedded systems, and IoT technologies**. Proficient in **digital circuit design, CMOS, and RTL**, with hands-on experience in tools like **ModelSim, HSPICE, and Xilinx Vivado**. Dedicated about leveraging technology for innovation and sustainable solutions along with demonstration in leadership in research and mentorship.

EDUCATION

M.S. in Electrical Engineering (GPA: 3.72 /4.0)

Sep 2023 - Present

NJIT - Newark College of Engineering

Newark, NJ, USA

Relevant Coursework: VLSI I & II | Semiconductor Devices | Embedded Computing Systems | Lab for High Performance DSP | Photovoltaic Semiconductors and Renewable Energy | Random Signal Analysis| Linear Systems | AI | Reinforcement Learning-based decision for Engineers

B.E. in Electronics & Telecommunication (GPA: 8.03 /10.0)

Sep 2017 - Jun 2021

University of Mumbai-Pillai College of Engineering

Navi Mumbai, MH, India

Relevant Coursework: Electronic Devices and Circuits I & II | Digital System Design | Circuit Theory & Networks, | Microprocessor & Peripheral Interfacing | Microcontroller & Application | Digital Communication | DSP | Data Compression & Encryption | Structured Programming | Internet Communication Engineering

WORK EXPERIENCE

Graduate Research Assistant

Oct 2024 - Present

GGES Lab, New Jersey Institute of Technology

Newark, NJ, USA

- Engineered an **IoT-based analysis system** for geospatial mapping, enhancing data collection & processing to achieve **95% data accuracy** in lab testing
- Enhanced soil classification accuracy by **70%** through the creation of an innovative algorithm **post-analysis** of multiple soil samples along with presenting the research at NJIT's CTR Innovation Day 2025 and contributing to a peer-reviewed publication

Industrial/Vocational Training

Jun 2019 - Jun 2019

Bharat Sanchar Nigam Limited

Thane, MH, India

- Gained hands-on experience in **satellite communication systems**, analyzing **frequency bands, signal processing, and network infrastructure** to optimize connectivity
- Collaborated with fellow interns** to analyze technical challenges in satellite communication, deepening technical expertise in transmission systems

PROJECTS

- Water Potability using Water Quality Metrics | NJIT | Sep 2024 - Dec 2024**
 - Developed a ML Hybrid Model(Random Forest + DNN) to classify water samples as potable & used data processing like Min-Max Scaling to increase the model's accuracy & effectiveness by 25% in supporting water safety decisions
- Energy-Aware Hardware Implementation of Network Coding | NJIT | Jan 2024 - May 2024**
 - Implemented an encoder for network coding using RAM, Galois Field Multiplier & Adder, & LFSR with VHDL to encrypt up to 80% accuracy
- 32 bits-Synchronous Counter | NJIT | Sep 2023 - Dec 2023**
 - Designed a 32-bit synchronous counter using a 0.18 μm CMOS process, focusing on VLSI principles and optimal transistor sizing, verified through DRC checks and HSPICE simulations
- IoT-based Gas Leakage Monitoring System using FPGA | Pillai College of Engineering | Sep 2020 - Dec 2021**
 - Built a gas leakage monitoring system with FPGA, gas sensors, and Wi-Fi module for real-time data and remote alerts via Thingspeak.com with 95% efficiency

SKILLS

Languages: VHDL | Verilog | Assembly language | MATLAB | C/C++ | Python | Java | Javascript | HTML | CSS

Tools: Mentor Graphics (IC Station) | Arduino IDE | HSPICE | Synopsys Waveview Analyzer | Leonardo Spectrum | Synopsys Design Vision | Synopsys Primetime | ModelSim (Quartus II) | Xilinx Vivado | AutoCAD | Tanner Tools | Linux | Google Colab | JupyterLab | Git | LabVIEW | MS Office

Technical Skills: Digital Circuit Design | VLSI & Digital System | Logic Synthesis | CMOS Design | Static Time Analysis | SPICE Simulations | CUDA | Embedded C | Communication protocols (I2C, SPI, UART) | ARM Cortex-M

CERTIFICATION

- VLSI Design Methodologies Course from Maven Silicon, 2023
- MATLAB Onramp Course from MathWorks, 2023
- VLSI System on Chip Design Course from Maven Silicon, 2022
- Certificate of Appreciation from [PCE - EXTC Department \(Student Journal - Research paper no.6\)](#), 2021
- Python Programming along with Data Structures Courses from University of Michigan, 2020