SOURASISH MITRA

B.Tech | Kolkata, IN | 🔗 **smitra0916.github.com**

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Academic Qualifications

Year	Degree	Institute	CGPA
2025 Expected	**B.Tech** Electronics & Communication Engineering	Jalpaiguri Government Engineering College West Bengal, IN	8.98/10
2022	**Diploma** in Electrical Engineering	A.P.C. Ray Polytechnic Kolkata, IN	8.9/10

Experience

- **Celebal Technologies** *June 2024 - August 2024*
  Summer Intern *Remote*
  - Implemented and deployed a **Python-based anomaly detection system** utilizing unsupervised learning techniques to analyze network traffic data for identification of unusual patterns and anomalies indicative of potential security breaches or system malfunctions.

- **University of Calcutta** *May 2024 - July 2024*
  Research Intern *Kolkata, In*
  - Designed and implemented **PWM control system** using Verilog on Xilinx FPGA to regulate MOSFETs driving a pump for a cold collision experiment at the Chemistry Lab.
  - Ensured **efficient signal transmission** through **impedance matching** and verified functionality using an **Oscilloscope.**

Key Projects

- **32-bit pipelined MIPS processor in Verilog** *Ongoing*
  Technology Used: Verilog, Xilinx Vivado, Xilinx FPGA
  - Designed and implemented a 32-bit MIPS microprocessor with a **5-stage pipeline architecture** using Verilog, achieving efficient RISC instruction set execution.
  - Successfully implemented it on a Xilinx FPGA board, demonstrating **high-performance operation and reliability.**

- **Real-Time Health Monitoring with Scalable Data Management** *May 2024*
  Technology Used: Firebase, ESP8266(NodeMCU), MX30100 sensor.
  - Sophisticated system that will remotely monitor a patient resulting **Easier Hospital Ward management. Elderly Home care.**
  - Used Firebase Authentication(SDK) to facilitate authentication & Cloud Firestore to store data.

Technical Skills

Programming Languages:	C, C++, Python
Electronics Design & Prototyping:	Cadence Virtuoso, Xilinx Vivado, KiCad
Tools & Platforms:	Git/GitHub, MATLAB, MS Office, Linux, Windows
Soft Skills:	Problem Solving, Self-learning, Presentation, Adaptability
Areas of Interest:	Electronics & Automation, VLSI Design, IoT

Relevant Courses

Mathematics	Electromagnetic Field Theory	Circuit Theory
Signal System	Analog & Digital Electronics	Communication
Semiconductor Physics	Instrumentation	Control System

Positions of Responsibility

- **Technical Member Core Team,** *February 2024 - Present*
  CFI (Centre for Innovation), JGEC
  - Mentored young team members, developed engaging workshops to ignite their passion for technology and Electronics.

Achievements

- **Hackathon Round 2 Finalist** at Department of Health and Family Welfare, Govt. of WB, Hack-O-Med 2023.
- **Achieved Highest SGPA 9.71** in 5th Semester of BTech.