SOURASISH MITRA

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EDUCATION

- **Jalpaiguri Government Engineering College, West Bengal, IN** *Expected 2025*
  BACHELOR OF TECHNOLOGY IN ELECTRONICS & COMMUNICATION ENGINEERING CGPA: 8.98
- **APC Ray Polytechnic Jadavpur, Kolkata, IN** *2022*
  DIPLOMA IN ELECTRICAL ENGINEERING CGPA: 8.9

TECHNICAL SKILLS

Programming Languages:	C, C++, Python
Electronics Design & Prototyping:	Cadence Virtuoso, Xilinx Vivado, KiCad, Arduino IDE
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, Embedded System
Relevant Subjects:	Analog & Digital Electronics, Digital Circuits, DSP

EXPERIENCE

- **Celebal Technologies** *June 2024 - Aug 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.
  - Optimized the performance by tuning the latent dimension in auto encoder. Achieved maximum accuracy while ***minimizing false positives.***
- **University of Calcutta** *May 2024 - July 2024*
  Research Intern Kolkata, India
  - 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.***

PERSONAL PROJECTS

- **32-bit pipelined MIPS processor in Verilog LINK** *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 LINK** *May 2024*
  Technology Used: Firebase, ESP8266(NodeMCU), MX30100 sensor.
  Presented and Published at **32nd West Bengal State Science & Technology Congress**
  Department of Science & Technology and Biotechnology, Govt of WB
  - Implemented sophisticated system that will remotely monitor a patient and warn doctor/hospital in necessary condition for simplified ***detection of cardiovascular diseases, Easier Hospital Ward management. Elderly Home care.***
  - Used Firebase Authentication(SDK) to facilitate authentication & Cloud Firestore to store data.

PUBLICATIONS

- **Development of a FPGA-Based Timing Sequence Generator with MOSFET-Driven Nanosecond Pulse Precision for Cold Collision Experimen** *March 2025*
  National Conference on Recent Trends in Science and Technology 2025
- **Real-Time Health Monitorining integrating Low-cost IoT with Bluetooth LE and Cloud through a Local Server** *Feb 2025*
  32nd West Bengal State Science & Technology Congress, Dept of Science & Technology and Biotechnology, Govt of WB

POSITION OF RESPONSIBILITY

- **Technical Member Core Team** CFI (Centre for Innovation), JGEC. *Aug 2023 - Present*
  - Mentored young team members, developed engaging workshops to ignite their passion for technology and problem-solving in the Electronics field.

CERTIFICATION

- **VLSI SoC Design using Verilog HDL** MAVEN SILICON
- **AUTOCAD TRAINING** by L&T Construction, **CERTIFICATE** from NIELIT Kolkata

ACHIEVEMENTS

- **Outstanding Paper Presentation - 1st** at 7th Regional Science & Technology Congress 2025, Siliguri College
- **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.