

# Arijit Mondal

Kolkata, West Bengal

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## SUMMARY

Final-year Electronics and Communication Engineering student with research experience in Silvaco TCAD, AI/ML, and IoT systems. Published 3 IEEE/journal papers and built full-stack applications using Python, React.js, and embedded systems.

## EDUCATION

### Institute of Engineering and Management, Kolkata

B.Tech – Electronics and Communication Engineering

2022–2026

CGPA: 9.44/10

Relevant Courses: VLSI, Digital Electronics, DBMS, OS, CN, DSA, Microprocessors

Ondal High School (WBCHSE) – H.S. (12th), 2022

82.2%

Andal Eastern Railway High School (WBBSE) – 10th, 2020

90.2%

## EXPERIENCE

### Student Research Intern – IEDC, Dept. of ECE, IEM Kolkata

May–Jul 2024

- Simulated TFETs and dual-junction solar cells using Silvaco TCAD.
- Conducted parametric sweeps and dielectric modeling for performance optimization.

### Open Source Contributor – Social Summer of Code

Jun–Aug 2024

- Refactored React + Python code, reducing LOC by 25% and bugs by 30%.
- Migrated scripts to PEP8 and collaborated with 10+ developers.

## PROJECTS

### Earthquake Prediction System – Python, Flask, React.js

ML-based platform for seismic forecasting; improved accuracy by 15%, response time by 30%.

Live: [earthquake-prediction-using-ml.onrender.com](https://earthquake-prediction-using-ml.onrender.com)

### AI-Powered Deep Fake Detection – CNN, GAN, OpenCV

Face-swap detection model with 85% accuracy using CNN+GANs.

### StayFinder – React.js, TypeScript, Supabase, Stripe

Airbnb-style rental app with map search, wishlist, and Stripe-based bookings.

Live: [stayfinder-web-home.vercel.app](https://stayfinder-web-home.vercel.app)

### Doctor Appointment Scheduler – React.js, Node.js, MongoDB

Real-time appointment scheduling system with admin dashboard; increased efficiency by 20%.

### IoT Projects

- [ESP32 Speech Recognition](#) – Voice-controlled module using DeepGram API.
- [Smart Water Flow System](#) – Arduino-based flow automation.

## PUBLICATIONS

[Performance Analysis of Dual Junction Solar Cells](#), *Journal of Polymer and Composites*, 2024

[Material Design in TCAD](#), *IEEE EDKCON 2024*

[Triple-Metal Gate TFET Design](#), *IEEE CALCON 2024*

## SKILLS

Languages: C, C++, Python, JavaScript

Web: HTML, CSS, React.js, Node.js, Express.js, Flask, Tailwind CSS

AI/ML: Gen AI, scikit-learn, NumPy, Pandas, Matplotlib

Tools: Silvaco TCAD, MATLAB, LTspice, Vivado, Arduino, Cisco Packet Tracer

Database: MySQL, MongoDB

Subjects: VLSI, DSA, OS, CN, DBMS, Microprocessor

## CERTIFICATIONS

- [SQL for Data Science – IBM \(Coursera\)](#)

- [Introduction to Machine Learning – NPTEL](#)
- [Cyber Security and Ethical Hacking – Coincent.ai](#)
- [Front-End Developer Capstone – Meta \(Coursera\)](#)
- [SCI Fundamentals – Microsoft Certified](#)
- [ISWDP Level 1 – IISc Bangalore Synopsys SARA](#)

## ACHIEVEMENTS

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- 2nd Place – ScrapYard, INNOVACION 2023
- Presented at IEEE CALCON 2024 and IEEE EDKCON 2024
- Selected for Diversion 2024 (Offline Round)
- RoboRace 2023 and Quiz 2022 – SYTRON

## POSITIONS OF RESPONSIBILITY

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- Organizer – Blind Coding, IEEE CONVERGE 2024
- Volunteer – Quiz & Project Team, INNOVACION 2023
- Volunteer – Tech Fest SMF 2023

## LANGUAGES

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English – Professional Proficiency  
Hindi – Full Working Proficiency  
Bengali – Native

## DECLARATION

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I hereby declare that the above information is true to the best of my knowledge.

Date: June 29, 2025

Place: Kolkata

**Signature:** Arijit Mondal