

Trishanu Roy

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Education

- **10th Class (CBSE) – Delhi Public School, Miyapur**
Achieved excellent academic results with a strong focus on science and technology.
 - **11th & 12th Class (TBSE) – Gatik Junior College, Bhanur**
Pursued advanced courses in mathematics, physics, and chemistry, excelling in competitive examinations.
 - **Post-Graduation in AI & ML – Caltech** (*Graduated with 96% at the age of 16*)
Specialized in machine learning, deep learning, and artificial intelligence, working on multiple research projects.
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Certifications

- **Robotics Expert Level (NXT & EV3)** – Developed and programmed advanced autonomous robotics systems at the age of 10.
 - **WhiteHat Jr. Game Development** – Created multiple interactive games using programming and animation tools at the age of 12.
 - **Certified Python Developer – IBM** – Mastered Python programming, data structures, and AI applications at the age of 16.
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Work Experience

- **Abjayon** – Internship in AI, SQL, Power Automate, Power BI
 - **Codiangle** – Marketing agent for Hackathon. Acquired over 10,000 leads
 - **Mindler** – AI and data analysis internship
 - **T-Works: India's largest prototyping center** – Worked on embedded systems, IoT solutions, AI, Product Development, Hasthavani
 - **IIIT Hyderabad** – Research in AI and ML, 3D printing, focusing on gesture recognition
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Projects

- **Spectorn:** A smart wearable device for visually impaired individuals using LiDAR sensors, AI-based object detection, and haptic feedback.
 - **Hasthavani:** A sign language into English using flex sensors, MPU6050 accelerometer, machine learning, and embedded systems.
 - **Auto Focus:** An AI-powered browser designed for productivity by blocking distractions. **Won 2nd place at a National-Level Hackathon.**
 - **RC Aeroplane:** A high-speed RC aeroplane (100 km/h), developed with precision aerodynamics and lightweight materials.
 - **LED Matrix:** A programmable LED display system for animations, real-time text, and interactive visuals.
 - **Distance Gauge Meter:** A portable ultrasonic sensor-based tool for precise distance measurement.
 - **Fully Autonomous RC Car:** An AI-powered self-driving RC car with obstacle detection and path planning.
 - **Anti-Theft System:** A home security system with door alarms and real-time cloud notifications using ESP32.
 - **Home Automation System:** IoT-based smart home system for remote appliance control via MQTT and ESP32.
 - **UAV Radar System:** A drone-based radar for terrain mapping, object detection, and reconnaissance.
 - **Study Buddy LLM:** A custom AI model for personalized academic assistance using NLP.
 - **Emotion Detection AI Model:** An AI model detecting facial emotions using deep learning techniques.
 - **FPV Drone (With Ritesh):** A first person-view drone for high-speed racing and aerial exploration.
 - **Bench Power Supply:** A custom variable power supply unit for electronics prototyping.
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Competitions

- **National-Level Hackathon (Auto Focus) – 2nd Place Winner**
 - **Ideathon (DPS Miyapur) – 1st Place Winner**
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Featured In

- **Gatik Pulse** – Featured article on Hasthavani.
 - **Simply Learn YouTube Channel** – AI and ML journey showcase and how I finished post-graduation course in AI & ML at the age of 16.
 - **Gatik YouTube Channel** – Interview for Abjayon's employee.
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Leadership & Public Speaking

- **High School Hackathon Leadership** – Tech Lead (2023 & 2024)
 - **IBM Public Speaking** – Delivered a seminar to 400+ IBM employees on AI & ML
 - **Pitch to CEO of Linear Momentum** – Presented Hasthavani project
 - **Simplilearn Collaboration** – Featured in a biography video
 - **Speaker at Xplorer Hackathon on IoT** – Conducted an in-depth session on IoT
 - **Student Mentor at Gatik Junior College** – Guided students in tech and career planning
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Skills

Programming: Python, C++, JavaScript, Embedded C++, MicroPython

Tools & Platforms: GitHub, VS Code, Arduino IDE, Docker, Anaconda, PlatformIO, Bash, Raspberry Pi

AI & ML: TensorFlow, PyTorch, OpenCV, NLP, LLMs

Embedded Systems: ESP32, Arduino, Raspberry Pi, FPGA Design

Product Development: EV3, NXT, 3D printing, CAD (Fusion 360 & SolidWorks), EDA (EasyEDA), Sensor Integration, Aeronautics

Web Development: HTML, CSS, JavaScript, React.js, Flask, Node.js

Soft Skills:

Leadership, Public Speaking, Problem Solving, Team Management

Additional Information

- Passionate about innovation, AI, and embedded systems.
- Experienced in prototyping, product development, and AI/IoT research.
- Strong background in robotics, automation, and ML-based real-world applications.
- Committed to creating impactful technology solutions for social good.

