

# Rishabh Kumar Mandal

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## Profile

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Aspiring Software Developer with strong foundations in front-end and back-end development, passionate about building scalable and accessible web applications. Proven ability in delivering full-stack solutions, collaborating across teams, and integrating emerging technologies (AI/ML, & GenAI). Eager to contribute to impactful projects at a leading tech company.

## Technologies

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**Languages:** C, C++, Python, JavaScript, Java (Basics), Dart, TypeScript.

**Frontend:** React.js, Next.js, Flutter, HTML5, CSS3, Tailwind CSS.

**Backend:** Node.js, Django, REST APIs, Express.js, FastAPI.

**Database :** MongoDB, SQLite, PostgreSQL, Supabase

**Tools:** Git, GitHub, Figma, Postman , AWS

**AI & Data Analytics:** Generative AI, Generative modeling, Computer Vision, Lang-chain Model Tuning.

## Education

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**Tula's Institute-** Bachelor's in Computer Science

July 2022 – August 2026

- CGPA: 7.5
- **Coursework:** DBMS, OOPS, Operating System, Computer Networks, Data Structures & Algorithm, Machine Learning, AI.

**Bristol Public School-** CBSE board

April 2018 – June 2022

- With 81 %
- **Coursework:** Mathematics, Physics, Chemistry

## Certificates

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**Global Impact Certificate by AD Scientist Index 2025** (Certificate)

**RCPL Add on Python Development Certificate** (Certificate)

**Microsoft Certified Machine Learning Developer** (Certificate)

**Microsoft Certified Generative AI Developer** (Certificate)

## Experience

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**Research Intern,** Institute of Artificial Intelligence – DSVV, Haridwar  
Certificate

July 2024 – Feb 2025

- Collaborated on 4+ government-funded AI/IoT projects focused on Health-tech and Agri-tech platforms.
- Developed internal dashboards using Django and REST APIs for real-time analytics and reporting.
- Developed research projects focused on AI and data analytics platforms and contributed as an author to the resulting research papers.

**Freelance Developer,** AI/ML-enabled Full Stack Projects

Feb 2025 – Present

- Delivered 3+ full-stack web applications for clients using React.js, Tailwind CSS, Node.js , Supabase.
- Reduced delivery time by 60% using Agile methodologies and automation with GitHub Actions and CI/CD and advanced & trending AI Tools.
- Implemented multilingual support and SEO best practices, GenAI Support and Knowledge Base Chatbots.

## Projects

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<b>StreeSaathi Mobile App</b>	Live-Soon
<ul style="list-style-type: none"><li>Developed and delivered a E-Commerce mobile application as a MVP for both <b>iOS &amp; Android</b>, implementing core features such as user authentication, product management, Creating Supply Chain and secure payment integration.</li><li>Technologies Used: Dart, Flutter, Node.js, TypeScript.</li></ul>	
<b>AI-Based Telemedicine Web App for Skin Disease Detection</b>	Demo Video
<ul style="list-style-type: none"><li>Designed a full-stack responsive web app for real-time skin disease diagnosis using Django, HTML, and CSS.</li><li>Integrated CNN model using TensorFlow and Razorpay API for payment processing.</li><li>Achieved 30% faster diagnosis cycle and 96.7% model accuracy in test cases.</li></ul>	
<b>Agri-Commerce Platform with AI-Powered Crop Diagnosis</b>	Demo Video
<ul style="list-style-type: none"><li>Built a multilingual e-commerce platform integrating React frontend and Django backend for farmers.</li><li>Implemented AI-based crop disease detection using TensorFlow and a voice chatbot using HuggingFace.</li><li>Increased local engagement by enabling support in 3 regional languages.</li></ul>	
<b>Smart Water Purifier Monitoring Web Dashboard</b>	In Progress
<ul style="list-style-type: none"><li>Designed a dashboard to monitor an AI-based multi-chambered filtration system in real time.</li><li>Developed front-end with React.js and charting libraries, backend using Node.js and MongoDB.</li><li>Enabled alert systems for TDS/pH variations using WebSocket.</li></ul>	
<b>AI-Powered Smart Calculator (AI Mathematician)</b>	Live
<ul style="list-style-type: none"><li>Created a web-based interactive math calculator using TypeScript, React.js, and Tailwind CSS.</li><li>Added dynamic expression rendering and hint-based problem solving for students.</li><li>Used OpenAI API for suggestion-based solutions in real time.</li></ul>	

## Publications

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<b>AI-Driven Knowledge Graphs for Interoperable Digital Ecosystems</b> - Accepted in ACIS 2025	April 2025
<b>AI Tongue Diagnosis: Expert System with LLMs for Abdominal Disease Detection through Mobile App</b> - Published	June 2025
<b>A Comparative Analysis of Artificial Intelligence and Business Intelligence using Big Data Analytics</b> - Published	April 2025
<b>Cloud Based Automated Control System Workshops and Rooms for Controlling Parameters</b> - Published	April 2025
<b>Hi-Tech Waste Segregator</b> - Patented	May 2024
<b>Multi-Chambered Filtration System</b> - Patented	October 2024

## Achievements

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(Awards)

**Won 2× National Hackathon**

**Won 6× Inter-universities Hackathons**

**6+ Research Papers & 3+ Patents Published**

**Led 5+ tech events as IEEE SB Executive**

**Student of the Year: Inter-School State level Sahodaya 2022**

**Sports & Other curricular activities: 20+ Medals & 15+ Awards including State level**