

Rishabh Kumar Mandal

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Profile

Full-Stack Web Developer | AI/ML Specialist | IoT Engineer Helping startups and businesses build scalable web apps, smart AI agents, and IoT automation systems. 3+ years experience | 6+ Hackathon wins | 3+ Patented Projects | 100% Project Delivery Rate

Technologies

Languages: C, C++, Python, JavaScript, Typescript, HTML5, CSS3, Java(Basics)

Framework and Libraries: Django, React.js, Next.js, Tailwind CSS, React Native, Tensorflow, Keras, Pytorch, Scikit learn, OpenCV, Hugging Face, Lottie Editor,

DataBase: MongoDB, Sqlite, PostgreSQL,

Tools: Git, Github, Replit, OpenCV, Excel, Powerpoint, AWS cloud, Figma, AI Tools, Canva, Onshape(3d cad), AI Tools, Anaconda.

Hardware: Raspberry Pi 5, Arduino, ESP32, IoT Sensors

Education

Uttarakhand Technical University, Bachelor's in Computer Science

July 2021 – August 2025

- CGPA: 7.5
- **Coursework:** Gen AI, ML, NLP, LLM, DL, Web Development, Graphic Designing, Embedded Systems & IoT Prototyping.

Bristol Public School, Mathematics, Physics, Chemistry

April 2018 – June 2022

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

Certificates

Global Impact Certificate: AD Scientist Index 2025 (Certificate)

Python Developer: RCPL Add on (Certificate)

Machine Learning Developer: Microsoft (Certificate)

Generative AI Developer: Microsoft (Certificate)

AI Agent Developer with Azure: Microsoft (Certificate)

Prompt Engineer with Github Copilot: Microsoft (Certificate)

Experience

Research Intern, IAI Lab– Dev Sanskriti Vishwavidhalya, Haridwar
Certificate

July 2024 – Feb 2025

- Led 4+ AI/IoT-based research projects for government-funded initiatives.
- Published 3+ IEEE/Springer papers & 2 patent grants while leading cross-functional R&D projects.

Freelancer, AI/ML Web Projects for Clients

Feb 2025 – Present

- Managed 3+ client projects, reducing delivery cycle by 60% through sprint-based execution using Jira & AI tools.
- Used Agile methodologies for planning, client demo, testing, and delivery.

Projects

AI Integrated Telemedicine Skin Disease Diagnosis and Holistic Treatment System (Software) Demo Video

- Led 5-member team; managed timelines, model training, and UI design
- Tools Used: CNN, Tensorflow, Huggingface-Net, SQLite, Python, Javascript, Bootstrap, Django, LottieEditor, LLM, Razorpay, HTML, CSS

AI-Driven E-commerce for farmers, Crop Disease Diagnosis and Treatment, and Holistic Solution Application (Software) Demo Video

- Managed project planning, API integration, multilingual chatbot, and testing.
- Tools Used: CNN, Tensorflow, Huggingface-Net, SQLite, Python, Javascript, Bootstrap, Django, LottieEditor, LLM, Razorpay, HTML, CSS

AI-Driven Multi Chambered System (Hardware) In Progress

- This project introduces an intelligent, multi-chambered filtration system designed to reduce water and resource waste
- Tools Used: Microcontroller, IoT Sensors, Arduino Programming and Embedded Hardware, Chemical Salination and Electronics

High Tech Waste Segregator(Hardware) Demo Video

- Using Raspberry-pi 5, trained model in 5000+ Datasets for segregating Biodegradable and Non Biodegradable Wastes
- Rasberry-pi 5, Python, Sensors, OpenCV, Embedded & IoT

AI Mathematcian (Software) Live

- The capabilities of a traditional calculator with intelligent features inspired by innovative apps like iPad Math Notes/Calculator.
- Tools Used: Typescript, Javascript, CSS, Python, HTML

Publications

Hi-Tech Waste Segregator - Patented May 2024

Multi-Chambered Filtration System - Patented October 2024

AI Tongue Diagnosis: Expert System with LLMs for Abdominal Disease Detection through Mobile App - Published June 2025

A Comparative Analysis of Artificial Intelligence and Business Intelligence using Big Data Analytics - Published April 2025

Cloud Based Automated Control System Workshops and Rooms for Controlling Parameters - Published April 2025

Achievements

(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 activites: 20+ Medals & 15+ Awards including State level