

Rishabh Kumar Mandal

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Profile

AI Application & Full Stack Developer with expertise in building scalable web applications using modern frameworks and AI/ML technologies. Proven track record in delivering production-ready solutions with React.js, Node.js, Django, and GenAI integration. Published researcher with 6+ papers focused on AI-driven systems and intelligent platforms.

Technical Skills

Languages: Python, JavaScript, TypeScript, Dart

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

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

Database: MongoDB, PostgreSQL, SQLite, Supabase

AI/ML: TensorFlow, LangChain, Generative AI, Computer Vision, RAG, OpenAI API / LLM APIs.

Tools & DevOps: Git, GitHub Actions, AWS, Postman, Figma

Experience

Research Intern - AI Development, Institute of Artificial Intelligence, DSVV July 2024 – Feb 2025

- Developed AI-powered Health-tech & Agri-tech platforms for 4+ government-funded projects.
- Built real-time analytics dashboards reducing data processing time by 40% through optimized backend architecture
- Co-authored 4 research papers on AI systems and knowledge graphs, accepted in IEEE and international conferences

Freelance Full Stack Developer, AI/ML-enabled Web Applications Feb 2025 – Present

- Delivered 3+ production-ready full-stack applications using React.js, Node.js, Tailwind CSS, and Supabase.
- Reduced development time by 60% by implementing Agile methodologies, CI/CD pipelines using GitHub Actions, and AI-assisted development; successfully managed and engaged a large user base while generating leads.
- Implemented SEO optimization, multilingual support, and an RLHF-powered real-time AI knowledge-base chatbot, increasing user engagement by 35%.

Key Projects

Chronic Disease Detection based on Prakriti Analysis using Deep Learning Live Demo

- Built CNN-based Ayurvedic assessment system with 84.7% accuracy with Prakriti classification.
- Implemented AI recommendation engine achieving 86.3% expert validation using knowledge graphs
- Outperformed baseline ML models by 8-12% training on 1,200+ expert-validated health assessments using TensorFlow

StreeSaathi - Cross-Platform E-Commerce Mobile App Live Demo

- Developed a production-ready cross-platform mobile application (iOS & Android) enabling end-to-end digital distribution workflows with secure role-based access..
- Scalable backend services to automate inventory, order lifecycle, and analytics-driven supply chain operations.

Education

B.Tech in Computer Science | Tula's Institute | CGPA: 7.5 July 2022 – August 2026

Relevant Coursework: Data Structures & Algorithms, DBMS, Machine Learning, AI, Computer Networks, OOPS

Research Projects & Publications

- AI-Driven Knowledge Graphs for Interoperable Digital Ecosystems** - Accepted in ACIS 2025
- AI Tongue Diagnosis: Expert System with LLMs** - Published in MBCC 2025
- Comparative Analysis of AI and Business Intelligence** - IEEE CE2CT 2025 DOI: 10.1109
- Cloud Based Automated Control System** - IEEE CE2CT 2025 DOI: 10.1109

Achievements

- Global Impact Certificate by AD Scientist Index 2025 for research contributions
- Won 10x National Hackathons(National/State Level) & Led 5+ technical events as IEEE Executive member
- Microsoft Certified in Machine Learning & Generative AI Development