

PAVAN KUMAR BARMAN

Full-Stack MERN Developer | AI Chatbot LLM Researcher | TechRxiv Published Author

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CAREER FOCUS

Full Stack Web Development

MERN Stack & Scalable App Development

- Focused on creating robust, responsive, and production-grade web applications.
- Skilled in React.js, Node.js, MongoDB, and RESTful APIs.

AI ML Integration

Smart Solutions Using NLP and LLMs

- Applying AI techniques to enhance user interactivity in web apps.
- Experienced in building intelligent features like AI Chatbots and personalized recommendations.
- Built offline intelligent chatbots using LangChain and locally hosted LLMs for custom data use cases.

PROJECTS

Full Stack E-commerce Website using MERN

Personal Project

- Developed a full-featured MERN-based e-commerce platform with product listing, cart, checkout, and admin panel.
- Integrated AI chatbot using Botpress with custom workflows that process PDFs, links, and text input via knowledge base.
- Built semantic document-based QA using external AI APIs, with future scope for offline integration using LangChain.
- Tech Stack: React.js, Node.js, Express.js, MongoDB, Tailwind CSS.
- **Live Demo:** full-stack-zbqz.onrender.com

SaaS-Based Multiple School Management System

Personal Project

Mar 2025 – May 2025

- Implemented a cloud-based platform to manage multiple schools with role-based access (Owner, Teacher, Student).
- Key modules: Role based features dashboards.
- Future scope includes integrating an offline chatbot using LangChain and LLaMA for internal queries.
- **Live Demo:** school-management-blocked.onrender.com

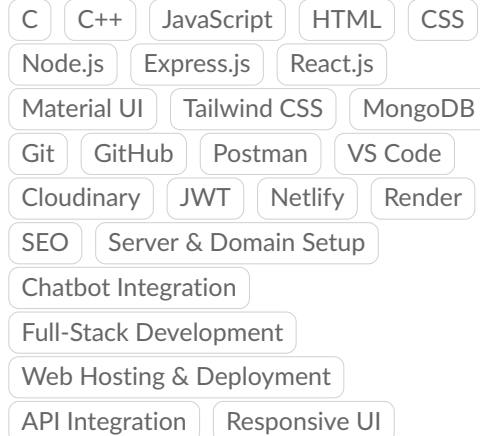
EDUCATION

B.Tech in Computer Science Engineering

Shri Ram Institute of Technology (SRIT) Jabalpur

Aug 2022 – July 2026 (Final Year)

TECHNICAL SKILLS



CERTIFICATIONS

- Comprehensive Full Stack Web Development Course
- Deep Learning for Developers
- Principles of Generative AI
- Introduction to Artificial Intelligence
- Introduction to Natural Language Processing
- Introduction to Data Science
- JavaScript Essentials 1 & 2
- Introduction to Cybersecurity
- Agile Scrum in Practice
- HTML and CSS
- Junior Cybersecurity Analyst Career Path

REAL-WORLD DEPLOYMENTS

School Management System – "My School"

Designed and deployed a comprehensive School Management System for R.P.P. Middle School, New Ramnagar, Satna (M.P.), which is in active use by teachers, students, and administrators.

- Implemented modules for administration (Dashboard, Classes, Subjects, Students, Examinations, Fees, Notices).
- Enabled teachers to manage attendance, timetables, and exam schedules digitally.
- Provided students and parents with progress tracking, schedules, fee updates, and notices.
- Incorporated an AI-powered chatbot to streamline queries and administrative support.
- Recognized with official certificates of appreciation from the school for successful deployment.

INTERNSHIPS

Full Stack Web Development Intern

Edunet Foundation (EY GDS AICTE)

May 2024 – July 2024 Remote

- Learned and applied MERN stack in real-world development.
- Built 10+ reusable production-ready components using React.js and Node.js, improving UI load time by 20%.

AI Intern

TechSaksham (Microsoft + SAP + Edunet Foundation)

Feb 2024 – Apr 2024 Remote

- Completed certified internship in AI under Microsoft and SAP's TechSaksham program.
- Developed a locally hosted QA chatbot using LangChain and LLaMA model without external APIs.
- Integrated vector-based document retrieval (RAG) and deployed using FastAPI on 8GB RAM systems.
- Hands-on experience in NLP, vector stores, and chatbot development using real-world use cases.

Google Student Ambassador

Ping Digital Broadcast Pvt. Ltd. (Google)

Aug 2025 – Dec 2025 Remote

- Participated in the Google Student Ambassador Program for Google Gemini AI Trials.
- Acted as a Campus Ambassador to engage and educate fellow students on Google Gemini AI.
- Conducted outreach and activities to align with program objectives, including organizing workshops and events.
- Responsible for achieving a target of 1,250 or more Gemini trials during the program period.

PUBLICATIONS

Preprint

A Secure and Personalized AI Chatbot for School Performance Monitoring using Local LLM and MongoDB
Pavan Kumar Barman, TechRxiv, September 2025.

DOI:
10.36227/techrxiv.175329513.35733860/v2

Enhancing E-Commerce User and Admin Experience through AI-Integrated MERN Stack Platform
Pavan Kumar Barman, TechRxiv, August 2025.

DOI:
10.36227/techrxiv.175424275.53300767/v1

LANGUAGES

English	<div><div></div><div></div><div></div><div></div><div></div></div>
Hindi	<div><div></div><div></div><div></div><div></div><div></div></div>
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