

# 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 + LLaMA for internal queries.
- Stack: React.js, Node.js, Express.js, MongoDB.

## EDUCATION

B.Tech in Computer Science Engineering

**Shri Ram Institute of Technology (SRIT) Jabalpur**

📅 Aug 2022 – July 2026 (Final Year)

## TECHNICAL SKILLS

C C++ JavaScript HTML CSS  
Node.js Express.js React.js  
Material UI Tailwind CSS MongoDB  
Git GitHub Postman VS Code  
Cloudinary JWT Netlify Render  
SEO Server & Domain Setup  
Chatbot Integration  
Full-Stack Development  
Web Hosting & Deployment  
API Integration Responsive UI

## 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

# PUBLICATIONS

## Preprint

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

DOI:  
10.36227/techrxiv.175329513.35733860/v1

# 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.

# 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>