

Bhumika Tyagi

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SUMMARY

Full-Stack Software Engineer specializing in scalable MERN applications and AI-powered solutions. Proficient in React.js, Node.js, Express.js, MongoDB, Python, REST APIs, and real-time architectures. Strong foundation in object-oriented programming, software engineering, data structures, and algorithms.

EDUCATION

Dr. APJ Abdul Kalam Technical University, Lucknow

2023 – 2027

B.Tech in Computer Science and Engineering

CGPA: 8.27

Govt. Senior Secondary School (Affiliated to CBSE), Delhi

Senior Secondary: 80% (2023) | Secondary: 83% (2021)

EXPERIENCE

Artificial Intelligence Virtual Intern

July 2025 – September 2025

IBM PBEL

India

- Engineered an AI PDF Analyst using Python, RAG, and NLP to process up to 50 dense documents daily, delivering automated summaries and real-time query responses.
- Developed an intelligent document processing system that reduced manual document analysis effort by 70%.
- Designed an interactive web interface for seamless PDF uploads, automated summary generation, and real-time QA, boosting user productivity by 60%.
- Successfully delivered 5 core practical assignments focused on end-to-end AI application development, model evaluation, and precise prompt engineering.

PROJECTS

Clean2Earn | *React.js, Node.js, Express.js, MongoDB, Groq API, Cloudinary, JWT*

- Built an AI-powered sustainability platform that rewards users for verified community cleaning activities.
- Integrated AI-assisted image verification to reduce fake reward claims by 70%.
- Added a leaderboard and reward management system, increasing user engagement by 50%.
- Constructed scalable REST APIs and improved database operations, improving backend efficiency by 40%.

Realtime Chat Web Application | *React.js, Node.js, Express.js, MongoDB, Socket.io, JWT, Cloudinary*

- Architected a real-time chat application with concurrent multi-user support and low-latency message synchronization.
- Implemented secure authentication and session management, improving application security by 60%.
- Enabled live messaging and online user presence with 70% lower message latency through event-driven concurrency.
- Crafted a responsive interface with streamlined API communication, reducing page load time by 35%.

AI-Drive-Hub | *React.js, Node.js, Express.js, MongoDB, Socket.io, Leaflet.js, JWT, Render*

- Programmed an AI-assisted distributed system for ride monitoring with real-time vehicle tracking and route visualization.
- Deployed driver inactivity detection, automatic ride reassignment, reducing ride failures by 35% and improving reliability.
- Created scalable schema architectures for fallback trip states, reducing manual system management by 60%.
- Optimized application performance, reducing response time by 40% and enabling low-latency real-time communication.

SKILLS

Programming: C++, C, Python, JavaScript, TypeScript, Java, SQL

AI & Machine Learning: NLP, CNNs, Generative AI, RAG, Transformers, n8n (Basic), LangChain (Basic)

Web Development: React.js, Node.js, Express.js, REST APIs, Socket.io, JWT, HTML, Tailwind CSS, FastAPI

Databases & Cloud: MongoDB, MySQL, PostgreSQL (Basic), Google Cloud, Amazon Web Services (AWS)

Tools: Git, GitHub, Postman, Streamlit, VS Code, Amazon Linux

Core CS Fundamentals: Data Structures and Algorithms, OOP, DBMS, Operating Systems, Computer Networks

Software Engineering: Object-Oriented Programming, Agile Methodologies, Design Patterns, Unit Testing, Debugging

ACHIEVEMENTS & CERTIFICATIONS

- PBEL Virtual Internship in Artificial Intelligence – IBM
- India AI Impact Generative AI Hackathon on Kaggle Platform (Participant) – IISC Bangalore, IBM
- Certified AI Foundations Associate – Oracle
- AWS Cloud Practitioner Essentials – Amazon Web Services (AWS)
- DevOps Skill Badge – Google Gen AI Academy 2.0
- Generative AI Job Simulation – Tata Forage