

Bukke Sai Charan Naik

B.Tech (EE 2025) – IIT Indore

Software Engineer (Full Stack / Backend)

JavaScript | React | Node.js | REST APIs | SQL NoSQL Databases

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Github: <https://github.com/Sai-Charan-16>

PROFESSIONAL SUMMARY

Software Engineer with hands-on experience in backend and full-stack development using JavaScript, Node.js, React, and SQL/NoSQL databases. Built scalable REST APIs, real-time systems, and secure authentication workflows with a focus on performance and reliability.

EDUCATION

Indian Institute of Technology Indore (IIT Indore)

B.Tech in Electrical Engineering

Indore, India

Nov 2021 – May 2025

PROFESSIONAL EXPERIENCE

IIT Indore

May 2024 – July 2024

Software Engineering Intern (Machine Learning & Backend Systems), IIITI DRISHTI CPS Foundation

- Collected and preprocessed VR videos, verified metadata, and Built controlled VR video datasets by applying **compression and distortion** techniques including **H.264, H.265**, Gaussian Blur, frame freezing, and frame hanging.
- Simulated real-world network conditions by introducing **packet loss levels** (1%, 2%, 4%, 8%) using **Linux-based network and video impairment tools**.
- Built an automated evaluation pipeline to compute quality scores by comparing original and distorted videos across compression types and packet loss levels.
- Implemented CNN-based models for compression classification and a **customized AlexNet regression model** to predict packet loss severity from video features.
- Optimized model performance by modifying **AlexNet's final layers** and applying MSE loss to improve prediction accuracy for VR video quality assessment.

PERSONAL PROJECTS

WhatsApp Clone (MERN) 🌐 — MongoDB, Express, React, Node.js, TailwindCSS, Socket.io, JWT, Zustand

Sept 2025 – Oct 2025

- Developed a real-time chat application supporting 1:1 and group messaging using React, Node.js, Express, and MongoDB.
- Built scalable **REST APIs** for users, chats, and messages with **JWT-based authentication and authorization**.
- Implemented real-time messaging and presence updates using **Socket.io**, achieving **sub-200ms message latency**.
- Optimized backend queries and **error handling** to ensure reliable message delivery and data consistency.
- Managed global client-side state using Zustand and built a responsive UI with React and TailwindCSS.

Bus Ticket Booking App 🚍 — JavaScript, CSS, Node.js, Express.js, MySQL

Nov 2024 – Jan 2025

- Developed a full-stack bus ticket booking system with user and admin roles using Node.js, Express, and MySQL.
- Designed **relational database schemas** and implemented RESTful APIs for bus search, seat booking, cancellation, and trip history.
- Built **concurrency-safe seat allocation logic** to prevent duplicate bookings under multiple user requests.
- Optimized **MySQL JOIN-based queries** to support search and booking workflows within 300–400ms response times.
- Implemented admin modules for route management, bus scheduling, and seat layout configuration.

TECHNICAL SKILLS

- Programming Languages:** JavaScript, C++, Python
- Frontend:** React.js, HTML5, CSS3, Tailwind CSS
- Backend & Frameworks:** Node.js, Express.js, REST APIs, JWT Authentication
- Databases:** MongoDB, MySQL, PostgreSQL
- Other Skills:** REST API, Git, GitHub and Version Control, Docker, AWS (EC2, S3), Data Structures & Algorithms.

ACHIEVEMENTS

- Solved **500+** Data Structures and Algorithms problems across LeetCode, CodeChef, Codeforces, and GFG.
- Selected among **Top 7** projects out of 60 for Best B.Tech Project nomination at IIT Indore.
- Certified:** Participation in Multimedia Processing and Analysis Workshop, IIT Indore

Certificate