

# GANGA SINGH

Full-Stack Developer

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## SUMMARY

I am a full-stack developer specializing in the MERN stack, TypeScript, and real-time web applications. With experience in building scalable applications using React.js, Next.js, Node.js, PostgreSQL, and Redis, I have successfully completed 5+ impactful projects, enhancing user engagement and performance. I am passionate about clean architecture and responsive design.

## EDUCATION

### Bachelor of Technology in Computer Engineering

Guru Nanak Dev University

08/2023 - 05/2027

Amritsar, Punjab

## PROJECTS

### Real-Time Collaborative Research Platform

Jan 2025 - Present

Node.js, Next.js, PostgreSQL, Redis, WebSocket, Prisma ORM, TypeScript

A collaborative platform enabling researchers to work together in real time on shared lab notebooks with live editing and version control.

- Developed real-time collaboration using WebSocket and Redis pub/sub, enabling 5+ researchers to simultaneously edit lab notebooks with less than 100ms latency
- Designed PostgreSQL schema with Prisma ORM supporting relational data models for users, projects, notebooks, and version history
- Built RESTful APIs with Express.js for authentication, project management, and document versioning, handling 500+ daily API requests
- Implemented Redis caching for session management and real-time presence tracking, reducing database query load by 35%

### AI-Powered Document Study Platform

Sep 2024 - Dec 2024

Next.js, TypeScript, MongoDB, Node.js, Gemini API, Tailwind CSS

An intelligent study platform that uses AI to summarize documents and generate quizzes, helping students learn more efficiently.

- Scaled to 232 active users with 1,455 page views in 30 days, achieving a 14% bounce rate through performance optimization
- Integrated Gemini API with custom PDF parsers for AI-powered document summarization, reducing study time by 40%
- Built responsive frontend with Next.js and TypeScript, implementing server-side rendering for improved SEO and faster page loads
- Designed MongoDB models for user content, supporting document uploads, annotations, and personalized study plans

## STRENGTHS

### Soft Skills

Team Collaboration, Problem-Solving, Written and Verbal Communication, Adaptability, Time Management, Agile Teamwork, Technical Documentation

## KEY ACHIEVEMENTS

### Full-Stack Project Development

Successfully built and deployed 5+ full-stack applications from concept to production, managing end-to-end development including database design, API architecture, and frontend implementation.

### User Engagement Growth

Scaled an AI study platform to 232 active users with 1,455 page views in 30 days, maintaining a 14% bounce rate through frontend performance optimization and SEO strategies.

### Real-Time Systems Architecture

Engineered a WebSocket and Redis-based real-time collaboration system achieving sub-100ms latency for concurrent multi-user editing sessions.

## SKILLS

TypeScript React.js Next.js Node.js  
PostgreSQL MongoDB Redis  
JavaScript ES6+ HTML5 CSS3  
Tailwind Express.js REST APIs SQL  
Git GitHub Docker Postman  
VS Code Vercel Netlify Linux  
Agile Data Structures OOP Caching  
SEO WebSocket Prisma Mapbox  
NLP Canva