

# MUGUNTHAN ARJUNAN

mugunthanarjunan@gmail.com | +919025056163 | Erode, Tamil Nadu, India

**LinkedIn:** [www.linkedin.com/in/mugunthan-arjunan](https://www.linkedin.com/in/mugunthan-arjunan)

**GitHub:** <https://github.com/mugunthanarjunan-glitch>

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## PROFESSIONAL SUMMARY

M.Tech Computer Science student with hands-on experience in MERN stack development, specializing in backend system design and scalable web application development. Skilled in building RESTful APIs, implementing JWT authentication and role-based access control, and developing automation and AI-powered web systems. Experienced with React.js, Node.js, Express.js, MongoDB, and JavaScript, with practical experience delivering production-ready projects including SaaS platforms and real-time applications. Seeking an entry-level Software Developer / Full Stack Developer role to build efficient and scalable software solutions.

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## SKILLS

Programming languages: JavaScript, Python.

Frontend: HTML, CSS, React.js.

Backend: Node.js, Express.js, REST API Development

Databases: MongoDB.

Tools: Git & GitHub, Postman.

Soft skills: Team collaboration, Adapting to new technology.

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## EXPERIENCE

### Full Stack Developer Intern

Duo Dev Technologies — Feb 01 – Feb 28 2025

- Built reusable UI components improving development efficiency by 20%.
- Developed full-stack modules using HTML, CSS, JavaScript, and PHP.
- Integrated frontend interfaces with backend logic and database operations.
- Debugged application workflows reducing runtime errors by 15%.

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## PROJECTS

### Exam Hall Allocation System:

HTML | CSS | JavaScript (Aug 2025- Sep 2025)

- Developed a rule-based automation system to allocate 500+ students across 20+ exam halls efficiently.
- Automated Excel data processing handling 1000+ records per upload with validation logic.
- Implemented algorithm-based seating allocation ensuring balanced department distribution.
- Generated multi-page PDF seating reports, reducing manual effort by 80%.
- Achieved 100% seat utilization efficiency through optimized seating logic.

### Real-Time Video Meeting Application:

React.js | ZEGOCLOUD | Netlify (Nov 2025-Jan 2026)

- Developed and deployed a cloud-based video conferencing platform supporting 10+ concurrent users per room.
- Implemented secure room-based access via unique Room ID and invite link system.
- Integrated video, audio, screen sharing, and real-time messaging within a unified meeting interface.
- Resolved SPA routing issues, improving dynamic URL handling and reducing navigation errors by 25%.

### Role-Based Project & Task Management System:

MERN Stack (Feb 2026)

- Architected a full-stack MERN application supporting 3 user roles with granular role-based access control.
- Developed 15+ RESTful APIs using JWT authentication and middleware validation.
- Structured MongoDB schema using references and population for 5+ relational entities.
- Enforced backend authorization preventing unauthorized task modifications.
- Optimized React state management reducing unnecessary re-renders by 30%.
- Designed scalable backend architecture supporting future modules (comments, analytics, filtering).

### AI SaaS RAG Knowledge Assistant

Node.js | Express.js | MongoDB Atlas Vector Search | Groq API | REST APIs

- Developed a SaaS-based Retrieval-Augmented Generation (RAG) platform that allows users to upload PDFs and query them through an AI-powered chat interface.

- Built the backend using Node.js and Express.js, implementing RESTful APIs for document ingestion, embedding storage, and query processing.
  - Implemented document chunking and preprocessing pipeline to split uploaded PDFs into semantic chunks for efficient retrieval.
  - Utilized MongoDB Atlas Vector Search to store embeddings and perform semantic similarity search for relevant document context.
  - Integrated Groq API for LLM inference to generate context-aware responses using retrieved document chunks.
  - Designed role-based SaaS architecture with Admin and Member dashboards for managing users, sessions, and documents.
  - Implemented JWT authentication and secure API middleware to control access to resources.
  - Built scalable backend architecture supporting multi-user document indexing and AI chat sessions.
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## **CERTIFICATIONS**

- Python (Basic) Skill Certification — HackerRank (Sep 2024)
  - Responsive Web Design Developer Certification — freeCodeCamp (Sep 2025)
  - Node (Basic) — HackerRank (Mar 2026)
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## **EDUCATION**

### **Master of Technology in Computer Science and Engineering**

Erode Sengunthar Engineering College

2022 – 2027

CGPA: 7.89 (up to 6th semester)

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## **ACHIEVEMENTS**

- Secured 2nd Prize in “Site Sprint” competition by building a functional website within 1 hour.
  - Achieved 4-Star Java rating on HackerRank.
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