

# venu madhav m

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 VenuMadhav  VMadhav007 **LeetCode:** VenuMadhav

Bangalore, Karnataka - 560085, India



## EXPERIENCE

- **Centre for Innovation and Entrepreneurship (CIE)** Bangalore, India  
*Summer Intern | GenAI and RAG Systems* June 2025 – July 2025
  - Worked on **CIE-GPT**, a GenAI-powered course companion using **RAG**.
  - Built a **microservices-oriented, Dockerized RAG pipeline** using **LlamaIndex** and **Qdrant/FAISS**.
  - Implemented **Kafka-based asynchronous processing** with real-time chat via **WebSockets** and **Redis**.
- **Undergraduate Teaching Assistant | C Programming Lab** Bangalore, India  
*Department of Computer Science and Engineering* Feb 2025 – Present
  - Supporting students with **writing, debugging, and executing C programs** during lab sessions.
  - Assisting in evaluation of lab assignments based on **logic, code efficiency, and documentation**.
  - Working with faculty to ensure **smooth and disciplined lab execution**.
- **Research et al & WEAL, PES University** Bangalore, India  
*Technical Member | Hackathon & Ideathon Clubs* Aug 2024 – Present
  - Mentored and supported teams during hackathons across full-stack, AI/ML, GenAI, and healthcare domains.

## EDUCATION

- **PES University - RR campus** SEP 2023 – JUL 2027  
*B.Tech in Computer Science and Engineering* Bangalore, India
  - **CGPA: 9.04**
  - Awarded **5x CNR Scholarship** for academic excellence.
- **Nandi International School** June 2021 – Mar 2023  
*Senior High School | Percentage: 95% | JEE Percentile: 96.8 | KCET Rank: 1693* Ballari, India

## PROJECTS

- **CIE-GPT : GenAI Course Companion**  June 2025 – July 2025  
*GenAI & RAG System*
  - Built an end-to-end **RAG-based conversational system** for syllabus-aligned question answering.
  - Designed a **Kafka-backed, Dockerized architecture** with semantic retrieval using **Qdrant/FAISS**.
  - Implemented a **local RAG evaluation system (RAGAs)** using TF-IDF and cosine similarity.
- **NYAK (Not Yet Another Kafka) – Distributed Message Broker with AI Inference**  Dec 2025  
*Python, Redis, Flask, Transformers (Hugging Face), PyTorch*
  - Built a **leader-follower message broker** with **Redis-based leader election** and **WAL persistence**.
  - Implemented **synchronous replication** with offset tracking between broker nodes.
  - Added **Bloom filter deduplication** for O(1) duplicate message detection.
  - Integrated an **AI consumer** using pre-trained Transformer models for sentiment analysis.
  - Enabled **runtime model switching** via Redis without consumer restarts.

## SKILLS

**Languages:** C, C++, Python, JavaScript, Java

**Web Tech:** React, Node.js, Express, HTML, CSS, Tailwind

**Databases:** MySQL, MongoDB, MongoDB Atlas, FAISS, Qdrant, ChromaDB, Redis, Neo-4j

**Domains:** Full Stack Development, RAG Systems, GenAI, systems and bigdata

## CERTIFICATIONS

- **Internship – CIE** [[View Certificate](#)]
- **Full Stack Web Development – Udemy** [[View Certificate](#)]
- **Containerisation 101(docker) – Alcoding** [[View Certificate](#)]

## LANGUAGES

- English (Fluent), Hindi (Fluent), Telugu (Native), Kannada (Proficient)