

Gurupreeth N

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Education

M S Ramaiah Institute of Technology

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Bachelor of Engineering in Computer Science and Engineering, CGPA: 7.24

Bengaluru, India

Achievements

Achieved **Top 2.11% rank** in Karnataka CET (Rank 4568 out of 2.16 lakh candidates).

Secured **93.78 percentile** in JEE Mains among 900,000+ candidates.

Scored **88% in 10th grade** and **90.33% in 12th grade**.

Projects

AI Research Paper Generator (PAPERGEN)

[GitHub](#) — [IEEE Link](#)

Tech Stack: Python, Flask, Ollama (Llama 3.1 8B), RAG, Semantic Scholar API, NLTK, BLEU/ROUGE, ReportLab, EasyOCR

- Built a **production-grade LLM inference pipeline** using **Llama 3.1 8B** to autonomously generate **IEEE-formatted academic papers** across 6 structured sections from a single prompt — **zero human intervention**.
- Engineered a **4-tier RAG fallback system** (exact → broad) via **Semantic Scholar API** for **hallucination suppression** and real citation grounding; reduced repeat-query latency ~80% via **MD5-keyed TTL caching**.
- Pioneered a **dual-pass "Write Drunk, Edit Sober" inference strategy** (temp 0.85 → 0.6) and **BLEU/ROUGE metric-gated QA** enforcing a 30–60% similarity band — replacing subjective review with **automated quality validation**.
- Shipped a **polyglot export engine** (IEEE HTML, DOCX, PPTX) and **EasyOCR multimodal context injection** from scanned figures; deployed as a **fully decoupled microservice Flask backend**.

Web3 KYC & Digital Identity Platform (1CARD)

[GitHub](#) — [IEEE Link](#)

Tech Stack: Next.js, Express.js, Node.js, Solidity (Hardhat), Ethers.js, IPFS, Docker, JWT, GraphQL, Chrome Extension

- Architected a **Zero-Knowledge Proof (ZKP)** trustless identity system — cryptographically validating documents **without exposing PII**, achieving **privacy-by-design** at the protocol level.
- Issued each user a **self-sovereign on-chain "1CARD ID"** as a **universal Web3 auth primitive**; built a **MetaMask-style Chrome extension** for real-time cryptographic verification across dApps.
- Eliminated all centralized DB dependencies via **Polygon PoS on-chain storage + IPFS content-addressing**; exposed **org-level API keys** to power a **decentralized Identity-as-a-Service (IDaaS)** protocol.

College Seminar Management Platform (Digi-Bulletin)

[GitHub](#)

Tech Stack: Next.js, Express.js, Node.js, MongoDB, JWT, Socket.io

- Architected a **real-time event-driven seminar platform** with **granular RBAC** (JWT-secured, zero privilege escalation) and a **WebSocket-driven live dashboard** delivering **sub-second push updates** via Socket.io.
- Engineered **MongoDB aggregation pipelines** for multi-dimensional student filtering — slashing query complexity from O(n) scans to **indexed, pipeline-optimized lookups**; hardened APIs with **rate limiting & defense-in-depth security**.

Technical Skills

Languages: JavaScript, Java, C, SQL

Frameworks/Tools: React.js, Next.js, Node.js, Express.js, REST API

Databases/Version Control: MongoDB, Redis, Git, GitHub

CS Concepts: Object-Oriented Programming, Database Management Systems, Cryptography, BlockChain, Computer Networks, DevOps.