

# DECEE RAO

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## EDUCATION

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**Indraprastha Institute of Information Technology (IIIT-Delhi)** **July 2023 – Present**  
B.Tech in Computer Science and Engineering (CSE) *CGPA: 7.64*  
*Relevant Coursework: Data Structures & Algorithms, Operating Systems, DBMS, Computer Networks, Machine Learning*

## TECHNICAL SKILLS

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- **Languages:** C++, Python, Java, JavaScript (ES6+), Dart, HTML5, CSS3, SQL, Shell Scripting
- **Frameworks & Libraries:** React.js, Next.js, Flutter, Node.js, Express, GSAP, Scikit-learn, Pandas
- **Infrastructure & Tools:** Docker, Git/GitHub, PostgreSQL, Redis, Linux (Debian/Arch)
- **Core Concepts:** Distributed Systems, Microservices, OOP, System Design, RESTful APIs, CI/CD, Agile

## PROJECTS

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**MarketPulse AI (Autonomous Competitor Intelligence Platform)** — [GitHub](#) **Jan 2026 – Jan 2026**  
*Next.js 14, TypeScript, TailwindCSS, MongoDB Atlas, OpenRouter (LLMs)*

- Architected a serverless Next.js market intelligence platform, reducing manual research time by **80%**.
- Live Demo: <https://marketpulse-ai-taupe.vercel.app>
- Integrated OpenRouter LLMs to generate structured business reports (SWOT, sentiment) in under **25 seconds**.
- Engineered concurrent web scraping pipelines to extract real-time market signals from **50+** live sources.
- Managed **1,000+ daily data operations** using MongoDB Atlas for real-time feeds and competitor watchlists.
- Built a responsive, type-safe frontend dashboard using TypeScript and TailwindCSS.

**Distributed Authentication Service** — [GitHub](#) **May 2026 – May 2026**  
*Bun, TypeScript, PostgreSQL, MongoDB, Redis, Kafka, Debezium, Docker, Prometheus*

- Architected a distributed authentication platform using PostgreSQL, Redis, and MongoDB supporting **1,000+ concurrent sessions** with token-based session management.
- Engineered a Debezium-Kafka CDC pipeline sustaining **<1.5s replication lag** between PostgreSQL and MongoDB for real-time synchronization.
- Optimized high-concurrency API workloads using Redis caching and reduced redundant database operations under parallel request execution.
- Built Prometheus-Grafana observability infrastructure exporting runtime, latency, and service-health metrics for distributed monitoring.
- Automated multi-container integration testing using `Bun.spawn`, validating inter-service communication and infrastructure reliability.
- Load tested distributed APIs using k6, sustaining **500 requests/sec** with **99.87% success rate** under concurrent traffic.

**Secure Authenticator App** — [GitHub](#) **July 2024 – December 2024**  
*Flutter, Cryptography, System Security, Virtualization*

- Built a TOTP authenticator with **SHA-256 double hashing**, guaranteeing **Zero-Knowledge** privacy.
- Developed an encrypted local backup system, reducing data recovery time by **90%** while ensuring privacy.
- Deployed backend verification on an **isolated VM**, achieving **100% network isolation** for enterprise security.
- Implemented secure state management in Flutter, ensuring ephemeral keys are instantly wiped post-authentication.
- Hardened the app against brute-force attacks using strict rate-limiting and local biometric access controls.

## POSITIONS OF RESPONSIBILITY

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- **Event Coordinator (ODYSSEY '24):** Directed a cross-functional team of **10 members** to execute cultural events, handling vendor negotiations and scheduling for **2000+ attendees**. (January 2024)