

R N Dhanapraveen Krishna

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EDUCATION

SRM Institute of Science and Technology

B.Tech in Computer Science Engineering — CGPA: 8.0

Chennai, Tamil Nadu

Aug 2022 – May 2026

EXPERIENCE

Unified Mentor

Web Developer Intern

Remote

Jun 2024 – Jul 2024

- Developed and integrated **REST APIs** consumed by frontend applications, implementing validation, exception handling, and retry mechanisms to improve reliability.
- Wrote **unit and integration tests** for backend modules, improving maintainability and reducing regression issues during feature releases.
- Participated in Agile development workflows including code reviews, Git-based collaboration, and secure coding practices.

PROJECTS

FinRAG | *FastAPI, Next.js, PostgreSQL, Docker, Groq API* | [GitHub](#) | [Live Demo](#) | [Case Study](#) 2026

- Built a retrieval-augmented financial research platform supporting semantic search and conversational analysis across **100+ financial documents**.
- Designed and implemented scalable **REST APIs** for document ingestion, retrieval, and conversational workflows using **FastAPI**.
- Implemented **Redis-based caching** for embeddings and frequently accessed queries, improving response latency and reducing redundant processing.
- Added structured **logging and request tracing** to improve observability and support operational debugging.

Distributed Task Queue | *Go, Redis, PostgreSQL, WebSocket, Docker* | [GitHub](#) | [Case Study](#) 2026

- Designed a distributed task processing platform in **Go** with **Redis**-backed queues, implementing **worker coordination**, idempotent execution, and **feature flags** for safe rollouts.
- Built **event-driven** queue workflows with async execution, retries with exponential backoff, and **fault recovery** for reliable task processing.
- Implemented structured **logging, metrics, and distributed tracing** to monitor throughput, latency, and task failures across workers.
- Automated build, test, and deployment workflows using **Docker** and **GitHub Actions** CI/CD, with tests gating every release.

Microplastics Detection System | *YOLOv8, FastAPI, React.js, MongoDB* | [GitHub](#) | [Live Demo](#) | [Case Study](#) 2025

- Built a real-time microplastics detection platform using **YOLOv8** and **FastAPI**, trained on **751 annotated microscopy images**.
- Achieved over **90% detection accuracy** on validation datasets while supporting real-time inference and analysis.
- Developed **REST APIs** and an interactive monitoring dashboard for image upload, inference, visualization, and system health tracking.
- Implemented scalable backend services and data pipelines using **FastAPI** and **MongoDB** to handle concurrent analysis workloads.

TECHNICAL SKILLS

Languages: Java, Go, Python, SQL, JavaScript

Backend & Distributed Systems: Spring Boot, FastAPI, REST APIs, Microservices, Redis, Kafka

Databases: PostgreSQL, MongoDB, Redis

Cloud & DevOps: Docker, GitHub Actions, CI/CD, Git, Linux, Oracle Cloud Infrastructure (OCI)

Core CS: Data Structures & Algorithms, OOP, Operating Systems, Computer Networks, DBMS, Distributed Systems

CERTIFICATIONS

- Oracle Certified Professional: Java SE 11 Developer | [Certificate](#)
- Oracle Cloud Infrastructure Foundations Associate | [Certificate](#)