

# MADHANRAJ M

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## EDUCATION

B.E Computer Science, Chennai Institute of Technology

CGPA: 8.50

Chennai, Tamil Nadu

Sep 2024 - Mar 2028

## EXPERIENCE

**RenewCred (Net Zero Initiative Private Limited)**, Data Engineering Intern May 2026 - June 2026 | Chennai (Remote)

- Designed and deployed a centralized observability platform across **10+ AWS EC2 (Ubuntu)** instances using Prometheus, Grafana, Loki, Node Exporter, and cAdvisor, **reducing manual infrastructure monitoring effort by 60%**.
- Developed **20+ Grafana dashboards** and configured **25+ alerting rules** by authoring Prometheus and Loki configurations for infrastructure metrics, container health, and application logs, **reducing issue detection time by 45%**.
- Integrated observability into an **EMQX MQTT-based IoT telemetry pipeline** for EV charging systems, solar panels, and biomass devices, **improving operational visibility by 50%** across distributed renewable energy workloads.

**Tesys India Pvt Ltd**, Software Development Engineer Intern Feb 2025 - Oct 2025 | Chennai (Hybrid)

- Engineered **20+ REST APIs** using Node.js, Express.js, MongoDB, Redis, and WebSockets, integrating Twilio OTP authentication, AWS S3, and real-time messaging, **improving API response time by 35%** across logistics operations.
- Implemented **H3 hexagonal geospatial indexing** for nearest-driver discovery and live location tracking, **reducing driver matching latency by 60%** and improving location-based dispatch efficiency for intracity delivery operations.
- Developed **30+ reusable React Native components** for an intracity logistics platform, integrating Razorpay, Firebase Authentication, Google Location Services, and in-app notifications, **reducing feature delivery time by 40%**.

## PROJECTS

**PlayGraphAI – AI Athlete Intelligence Platform** Next.js, FastAPI, Cognee, PostgreSQL, Redpanda(Kafka), Docker  Nov 2025

- Architected a memory-first AI platform using **Next.js, FastAPI, and Cognee**, processing **4 multimodal data sources** (video, image, audio, JSON) through a unified memory architecture, **improving contextual AI retrieval by 65%**.
- Engineered an event-driven pipeline using **Redpanda (Kafka), MinIO, Docker, and 4 asynchronous Python workers**, **reducing multimodal ingestion latency by 60%** while enabling real-time memory-backed athlete intelligence.

**BharatStat – AI Statistical Intelligence Platform** FastAPI, Next.js, PostgreSQL, Redis, Neo4j, LayoutLMv3  March 2026

- Built an AI-powered statistical intelligence platform using **Next.js, FastAPI, and Neo4j**, automating heterogeneous CSV/XLSX analysis through a **5-stage semantic analytics pipeline**, improving dataset **processing efficiency by 65%**.
- Developed a **6-stage document intelligence pipeline** using LayoutLMv3, Qwen2.5-VL, Redis, and Docker, extracting structured PDF templates and generating publication-ready reports, **reducing report preparation time by 70%**.

**Custva - Multi-Tenant Customer Engagement Platform** Next.js, Express.js, PostgreSQL, Redis, BullMQ  July 2026

- Architected a scalable **multi-tenant CRM platform** with customer analytics, visit tracking, and **4-stage WhatsApp lifecycle automation**, increasing **repeat customer engagement by 40%** across merchant businesses.
- Engineered an event-driven messaging infrastructure using **BullMQ, Redis, and Meta WhatsApp Cloud API**, automating high-volume lifecycle campaigns while **reducing manual campaign operations by 60%**.

## TECHNICAL SKILLS

**Languages:** Python, C++, TypeScript, JavaScript (ES6+), SQL

**Core CS:** Data Structures & Algorithms, Object-Oriented Programming, DBMS, Operating Systems, Computer Networks

**Frameworks:** React.js, Next.js, Node.js, Express.js, FastAPI, React Native, Tailwind CSS, Flutter

**AI & Data:** Cognee, LangChain, LangGraph, Hugging Face, OpenCV, PostgreSQL, MongoDB, Redis, Neo4j, Qdrant

**Cloud & DevOps:** AWS (EC2, S3, Lambda, IAM), Docker, Linux, Kafka, Grafana, Prometheus, GitHub Actions

**Developer Tools:** Git, GitHub, Hardhat, Swagger, Jira, Figma, VS Code, Cursor, Jest, Postman

## ACHIEVEMENTS

- Statathon 2025 - (Runner up - 2nd Place)**, Ministry of MOSPI, Manav Rachna University, New Delhi
- Build and Deploy Hackathon - (Winner - 1st Place)**, Manipal University, Jaipur
- Hack7Days Web3 Hackathon - (Winner - 1st Place)**, Chennai Institute of Technology
- CSIC Innovation Challenge 1.0 - Secured 1 Lakh Seed Funding**, Ministry of IT, The Ashok, New Delhi
- East India Blockchain Summit - (Winner - 5th Place)**, Indian Institute of Technology, Kharagpur
- Cardano Hackathon Asia 2025 - (Finalist - Top 5/500+)**, Polaris School of Technology - Bengaluru

## COMPETITIVE PROGRAMMING

- LeetCode - Knight** | Max Rating: **2094** | Solved **850+** DSA Problems - Top **2%**
- CodeChef - 3 Star** | Max Rating: **1620**
- Codeforces - Pupil** | Max Rating: **1244**

## CERTIFICATIONS

- AWS Certified AI Practitioner | AWS Certified Cloud Practitioner

## VOLUNTEERING

Entrepreneurship Development Cell, CIT Chennai, Technical Coordinator

Tezos Blockchain Club, CIT Chennai, Technical Lead

Sep 2024 - July 2025 | Chennai

Aug 2024 - Feb 2026 | Chennai