

Harjas Partap Singh Romana

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EDUCATION

VELLORE INSTITUTE OF TECHNOLOGY

Bhopal, Madhya Pradesh

Bachelor of Technology in Computer Science (Specialization: Cloud Computing & Automation) September 2022 - Present

CGPA: 8.75 | Expected: July, 2026

Relevant Coursework: Distributed Systems, Data Structures & Algorithms, Operating Systems, DBMS, Object-Oriented Programming, Computer Networks, System Design.

WORK EXPERIENCE

QuantAI Limited

Auckland, New Zealand

Data Scientist Intern (Remote)

May 2025 – October 2025

- Engineered a **fault-tolerant backend service** for a Voice Agent, optimizing the **retrieval** layer to reduce query latency by **25%** (from 1.2s to 900ms), directly enhancing **customer experience**.
- Architected a real-time **distributed bidding system** (Uber-style) using **React.js** and **Firestore**, implementing **concurrency controls** to handle simultaneous user bids with zero data inconsistency.
- Designed and deployed a **CI/CD pipeline** using Cloudflare, automating testing and deployment cycles which increased development velocity by **30%** and ensured **high availability**.
- Collaborated with cross-functional teams to build an AI Skills platform, integrating **REST APIs** (Groq/LLaMA 3) to process large-scale candidate data with **low-latency** response times.

PROJECTS

Distributed E-Commerce Platform (Node.js, AWS, Redis) [Link](#)

- Designed a **scalable** and **fault-tolerant** e-commerce architecture on **AWS**, utilizing **Auto Scaling Groups** and **Elastic Load Balancers** to handle sudden traffic spikes.
- Implemented **Redis caching** strategies to optimize database read operations, achieving **35% faster response times** (throughput) under a simulated load of **10,000 concurrent requests**.
- Configured **AWS CloudWatch** alarms for real-time monitoring of system health, ensuring 99.9% uptime targets were met during testing.

CodeAura — Semantic Code Search (Node.js, Vector Database, Indexing) [Link](#)

- Built a high-performance **indexing and query system** capable of searching across 10,000+ code functions with **<1s latency**.
- Developed a CLI tool for developers, to make complex codebase navigation intuitive.

Movie Recommendation Engine (Python, Flask, scikit-learn) [Link](#)

- Built a collaborative filtering recommender using Python, Flask, and scikit-learn, integrating with a frontend to deliver real-time recommendations with <500ms response.

TECHNICAL SKILLS

- Programming Languages:** Java, Python, JavaScript, SQL, C++
- Core Concepts:** Distributed Computing, Scalability, Fault-Tolerance, Object-Oriented Design (OOD), DSA.
- Web & Backend Development:** React.js, Vite, TailwindCSS, REST APIs, Node.js
- Databases & Storage:** MySQL, MongoDB
- Cloud & DevOps:** AWS (EC2, Lambda, S3, RDS, IAM, Auto Scaling, Load Balancer), Docker, Monitoring & Logging
- Tools:** Git/GitHub, CI/CD, Linux/Unix, CloudWatch, Terraform.

LEADERSHIP & EXTRACURRICULARS

- President, Version Statistics Club:** Demonstrated Ownership by leading technical events for 50+ members.
- Volunteer, Firefox Club Hackathon:** Coordinated logistics & activities for 100+ participants, ensuring smooth execution.

ACHIEVEMENTS & RESEARCH

- Finalist, Industry Conclave 2024:** Analyzed system failures and proposed reliability improvements for large-scale systems.
- Published a Springer paper on **hyperspectral image classification using Machine Learning**. [Link](#).

CERTIFICATION

IBM DevOps (IBM) | Java Programming (Udemy)