

VIHAAN THATIPARTHI

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EDUCATION

Indian Institute of Information Technology

SriCity, AP

Bachelor of Technology in Computer Science

2022 – Ongoing (CGPA-8.68)

- **Relevant Coursework:** Data Structures & Algorithms, Object-Oriented Programming, Database Management Systems, Software Engineering, Operating Systems, Computer Networks

EXPERIENCE

Research Intern - Mixed Reality Exergames

Jan. 2025 – Apr. 2025

HCI Lab, IIIT Sricity

Sricity, India

- Developed Model Context Protocol (MCP) server with 3 tools for biomechanical analysis integrating LLM with computer vision models for pose comparison and session reporting
- Engineered motion analysis framework to detect postural anomalies with 95.2% accuracy across 24 participants

TECHNICAL SKILLS

Languages: DEV : JavaScript, SQL, Java, Python — DSA : C++

Frameworks & Libraries: React, Next.js, LangChain, Express.js, FastAPI

Software Engineering: Object-Oriented Programming, Data Structures & Algorithms, Design Patterns, Domain-Driven Design, Agile Methodologies, Event Driven Architecture

Databases Tools: Qdrant (Vector DB), MongoDB, DynamoDB, Docker, AWS Services

PROJECTS

Serverless Chat Rooms | AWS Lambda, DynamoDB, API Gateway, Cognito, S3

2025

- Designed and implemented a serverless architecture for real-time messaging using AWS Lambda, DynamoDB, API Gateway, and S3 without traditional server infrastructure
- Built complete user authentication flows with registration, email verification, and secure login using AWS Cognito and JWT tokens
- Developed efficient data modeling in DynamoDB using single-table design to optimize query performance for message retrieval
- Created event-driven Lambda functions that handle message routing between users and groups with conditional request processing

MicroServeThat | Java, Spring Boot 3, Docker, Kafka, prometheus, kubernetes

2025

- Architected a distributed, event-driven system using Spring Boot 3, engineering decoupled microservices (e.g., Product, Order, Inventory) to ensure independent scalability.
- Implemented an API Gateway (Spring Cloud Gateway) as the single, secure entry point, centralizing request routing, load balancing, and cross-cutting concerns.
- Engineered a resilient messaging system using Kafka for asynchronous communication, ensuring eventual consistency and fault tolerance between services.

Colosseum: E-Sports Tournament Hosting Platform | JavaScript, Next.js, React, Docker

2025

- Developed and deployed a responsive, full-stack tournament platform using Next.js, React for the frontend, with an Express.js backend.
- Created API documentation, domain-driven design diagrams, and Git-based development workflow with automated testing
- Set up CI/CD pipeline with GitHub Actions for automated test execution on push/PR and Docker Compose for multi-environment deployment with MongoDB, Redis, and Node.js services

LEADERSHIP & COMMUNITY INVOLVEMENT

- **Student Council Member:** Represented a 300-student body, mediating between students and institute administration to resolve campus policy concerns and align interests.
- **Domain Lead, Google Developer Groups:** Led Git/version control workshops for 60+ juniors and co-organized a CTF event, authoring 4 steganography challenges centered around git to promote open-source.