

Harshith Kasthuri

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EDUCATION

University of Georgia, School of Computing

Master of Science in Computer Science (GPA: 3.94)

Athens, GA, USA

Aug 2023 – May 2025

Osmania University

Bachelor of Engineering in Computer Science and Engineering (GPA: 8.94/10)

Hyderabad, India

Aug 2019 – Jun 2023

WORK EXPERIENCE

University of Georgia, CoDex

Software Engineer

- Pioneered 3D rehabilitation environments using **Panda3D** and the **HAND** device, integrating **Python** pipeline to capture and analyze kinematic data, improving throughput by **30%**.
- Collaborated with engineers and researchers, including **Johns Hopkins University**, to implement **distributed processing** with **fault-tolerant synchronization** for real-time, scalable multi-sensor data analysis.

AI Research Assistant

Jan 2024 – May 2025

- Enhanced **MediaPipe Hands** with stereo calibration and depth estimation on **Ubuntu**, achieving **1 cm RMSE** in 3D accuracy and reducing tracking latency by **45%**.
- Automated **data pipeline** using **Docker, Bash, and AWS**, accelerating preprocessing by **90%** and improving reliability.
- Refactored Python modules following **SOLID principles** and unit tests, leveraging AI tools (Cursor, Claude) to speed prototyping and improve maintainability by **40%**.

Vanna Information Technologies India Pvt. Ltd.

Hyderabad, India

Software Development Engineer

May 2022 – July 2023

- Developed and maintained **backend microservices** with **Java Spring Boot** and **Hibernate ORM**, implementing **JWT authentication** and reducing API latency by **24%** while processing over **1M transactions/day**.
- Designed distributed data pipeline with **PostgreSQL, DynamoDB, and Elasticsearch**, improving analytics query performance by **22%** in high concurrency environments.
- Automated CI/CD pipeline using **Jenkins, Maven, Docker** on **AWS**, cutting release cycles from days to under **2 hours** with a fault-tolerant architecture.

Software Engineer Intern

May 2021 – Dec 2021

- Developed frontend features for an e-commerce platform using **React.js, Tailwind CSS, TypeScript** implementing **React Context** for state management and improving dashboard responsiveness by **20%**.
- Enhanced initial page load performance by integrating **server-side rendering (SSR)** for key React components, reducing perceived latency by **20%**.

PROJECTS

Distributed Transaction Processing using PBFT | Go, Distributed Systems | [GitHub](#)

- Built a scalable **Byzantine Fault Tolerant** system handling **200+ transactions/sec** across **7 nodes**, improving consensus latency by **35%** while ensuring **100% reliability**.

Movie E-Booking System | PostgreSQL, Express.js, React.js, Node.js | [GitHub](#)

- Architected scalable **REST** and **GraphQL APIs** for seat reservation, supporting **500+ concurrent sessions** and optimizing SQL queries by **25%**.

Multilingual Q/A Bot using BERT | Python, Flask, BERT, Google Translate API | [GitHub](#)

- Fine-tuned **Distil-BERT** for multilingual domain-specific Q/A, applying prompt engineering and context-aware input structuring to achieve **75% answer accuracy** for enterprise-style retrieval.

TECHNICAL SKILLS

Languages: Java, Python, Go, C++, SQL, TypeScript, JavaScript

Frameworks: Spring Boot, Hibernate, FastAPI, Express.js, React.js, Node.js, GraphQL.

Cloud/Tools: AWS (EC2, S3, RDS), Docker, Jenkins CI/CD, Git, Linux/Unix, Kafka.

Databases: PostgreSQL, MySQL, DynamoDB, MongoDB.

Concepts: Microservices, Distributed Systems, Design Patterns, Object-Oriented Design, API Design, Operating Systems.

ACHIEVEMENTS

LeetCode Global Ranking – Top 5.9% worldwide with a maximum contest rating of 1855. [[Profile](#)]

Best Poster Award – “Marker-less Hand Tracking and Finger Movement Assessment for Rehabilitation,” UGA School of Computing Research Day 2025

Top 10 Graduate – Ranked among the top 10 graduates in Computer Science, Osmania University