

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

Athens, GA, USA

Aug 2025 – Present

- Developing 3D game-based rehabilitation environments using **Pandas3D** and the **HAND (Hand Articulation Neuro-training Device)**, with **Python** and **Pandas**-driven data analysis to capture and process hand and finger movements and forces.

AI Research Assistant

Jan 2024 – May 2025

- Enhanced **MediaPipe Hands** hand tracking model with stereo calibration and depth estimation, achieving an **RMSE less than 1 cm** for 3D hand tracking in biomechanical studies.
- Built a **Python**-based GUI reducing manual preprocessing time by **50%**, doubling daily experiment throughput.
- Engineered and deployed **Docker**-based environments and automated **AWS** pipelines (**EC2, S3**), cutting setup time from 2-3 hours to 15 minutes and reducing manual video processing by **80%** with **100% reproducibility**.

Vanna Information Technologies India Pvt. Ltd.

Hyderabad, India

Software Development Engineer Intern

May 2022 – May 2023

- Orchestrated backend microservices using **Go (Golang)**, integrating with **PostgreSQL** and **AWS DynamoDB** to manage financial data of over **5M+ transactions**, supporting a **financial analytics platform**.
- Designed and implemented **REST APIs**, streamlining data access for dashboards and reporting tools, reducing query latency by **24%**.
- Performed **data analysis** and **exploratory data analysis (EDA)**, supporting **ML-based anomaly detection** on the platform, improving detection accuracy by **15%**, while collaborating in an **Agile development environment** with cloud-native deployments on **AWS** to ensure faster iterations and high system availability.

Software Engineer Intern

May 2021 – Dec 2021

- Developed and enhanced frontend features for an **e-commerce platform** using **React**, **TypeScript**, and **Tailwind CSS**, improving dashboard load times by **20%** and overall user experience.
- Crafted responsive and interactive UI components, reducing dashboard response time by **20ms** and ensuring seamless interaction across devices and browsers.

PROJECTS

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

- Spearheaded a full-stack PERN movie booking app with a team of 5, implementing secure login, seat booking, offers, and admin controls; designed an optimized PostgreSQL schema and applied MVC patterns, improving query performance by 25% and ensuring scalable, maintainable code.

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

- Extracted and preprocessed college website data to fine-tune Distil-BERT LLM for question-answering on college-specific queries, achieving 75% answer accuracy, and integrated multilingual support for enhanced accessibility and user experience.

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

- Built a scalable Byzantine Fault Tolerant system using Linear PBFT to efficiently process 200+ secure transactions across 7-node clusters with linear communication complexity, ensuring system reliability and consistency under adversarial failure scenarios by implementing fault-tolerant consensus protocols in Go.

TECHNICAL SKILLS

Languages: C, C++, Java, Python, Golang, HTML, CSS, JavaScript, SQL.

Concepts: OOPs, Data Structures, Algorithms, Design Patterns.

Web Dev and DB: React.js, TypeScript, Angular, Node.js, Express.js, MySQL, PostgreSQL, MongoDB, DynamoDB.

Tools: Jenkins, GitLab CI/CD, Docker, Kubernetes, AWS, Git, GitHub, MS Office, Excel, Visual Studio.

Python Modules: Numpy, Pandas, Scikit, OpenCV, PyTorch, TensorFlow, LLM, Flask, Django.

ACHIEVEMENTS

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

Top 10 Graduate – Computer Science, Osmania University.