Amulya Siddireddy

siddireddyamulya9@gmail.com — LinkedIn — GitHub — 9392121734 — Rajmundry, India

EDUCATION

International School of Technology and Sciences For Women, Rajanagaram — Rajahmundry
B.Tech in Computer Science; CGPA: 9.0 — *September. 2023 – Present*

PROJECTS

Generative AI-Powered PDF Chatbot
Personal Project

- **Intelligent PDF Q&A Platform**: Developed an end-to-end generative AI chatbot enabling conversational Q&A over large PDF documents (200+ pages). Achieved a 40% reduction in search time vs manual lookup.
- **High-Accuracy Retrieval Pipeline**: Implemented advanced text chunking, metadata tagging, and vector embeddings (OpenAI + SentenceTransformers), improving retrieval precision by 30%.
- **Scalable Vector Search**: Integrated Pinecone/Faiss vector DB to support sub-second semantic search with 10K+ indexed document chunks.
- **RAG-Based Answer Generation**: Built a Retrieval-Augmented Generation pipeline that dynamically selects top-k relevant contexts, resulting in 92% answer consistency in internal evaluations.
- **Tech Stack**: Python, LangChain, Vector Databases (Pinecone/Faiss), OpenAI APIs

Real-time Pose Estimation and Correction System
Personal Project

- **AI-Based Virtual Fitness Coach**: Built a real-time pose estimation system using MediaPipe/OpenPose to evaluate posture and provide corrective feedback across 13+ exercises.
- **High-Precision Motion Analytics**: Implemented joint-angle computation, rep detection, and anomaly detection pipelines achieving 98% accuracy across 2,500+ test frames.
- **Instant Error Feedback**: Developed an on-screen visual feedback loop that highlights incorrect posture (knees, spine, shoulders), reducing form errors by 45% in test users.
- **Low-Latency Video Processing**: Optimized inference pipeline using OpenCV + vectorized NumPy operations, reducing latency to under 90ms per frame.
- **Interactive Dashboard**: Created UI overlays showing real-time skeleton tracking, rep count, joint deviations, and performance metrics.
- **Tech Stack**: Python, OpenCV, MediaPipe/OpenPose

ACHIEVEMENTS AND RESPONSIBILITIES

- **Head Girl – School Student Council**: Elected as Head Girl for the academic year 2020–2021. Led a team of 40+ student volunteers, organized cultural events, and coordinated inter-school competitions.
- **Gold Medal – National Science Olympiad**: Secured a Gold Medal at school level in the National Science Olympiad (NSO).
- **Class Representative (CR)**: Served as Class Representative for two consecutive years, acting as a liaison between faculty and students and coordinating academic and co-curricular activities.
- **Event Coordinator – Technical Fest**: Organized multiple events during the college technical fest, managing registrations, logistics, and execution for 300+ participants.

SKILLS

- **Programming Languages** : Python, HTML,CSS

- **Data Science**: Data Cleaning, Exploratory Data Analysis(EDA), Feature Engineering

- **Data Structures**: Arrays, Linked List, Stacks, Queues,Trees

HOBBIES

- **Cooking**: I enjoy experimenting with simple ingredients.
- **Badminton & Fitness**: Regularly engage in badminton and gym workouts to maintain discipline and focus.
- **Photography**: Passionate about travel and landscape photography with interest in editing and composition.