Cherin Yacoob Wattacheril

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Education

VIT Bhopal University Oct 22 – Present
Integrated M.Tech (Specialized in Artificial Intelligence & Machine Learning) *GPA: 8.72/10*

Marthoma Residential School, Thiruvalla, Kerala May 22
12th Standard *Percentage 85%*

Sophia International Academy, Nooronmavu, Kerala *May 20*
10th Standard *Percentage 89%*

Technical Skills

Languages: Python, C++, Java, Bash

Tools and Frameworks: OpenCV, Numpy, Yolo, Git, Docker, LSTM,Transformers

Certifications

- Applied Machine Learning in Python- Coursera
- Cloud Computing - NPTEL

Projects

Sign Language Detection Jan 24 - Mar 24

- Developed and implemented a real-time sign language recognition system using LSTM neural networks and the MediaPipe framework to enhance communication for the deaf and hard-of-hearing community.
- Successfully designed and executed a comprehensive methodology encompassing data collection, LSTM model training, and real-time demonstration modules, achieving a real-world prediction accuracy of approximately 96%.
- Pioneered a dynamic modeling approach for sign language recognition, focusing on sequential movements and temporal intricacies over static gestures, with an aim to revolutionize assistive technologies for improved communication accessibility.

Anomaly Detection in Crowded Environment July 24 - April 25

- Developed and implemented a multi-modal AI pipeline for real-time threat detection in crowded environments, leveraging advanced models such as YOLOv8-X, MediaPipe Pose, and SlowFast R50 to analyze video streams.
- Engineered a sophisticated AI system capable of classifying 12 distinct threat categories with a robust performance, demonstrating an Area Under the Curve (AUC) greater than 95%.
- Designed and integrated an Interaction-Aware Threat Scoring (IATS) mechanism, utilizing AI to quantify risks by fusing individual and group dynamics with environmental context, and validated its effectiveness on the UCF Crime dataset to enhance detection accuracy.

Generative AI For Automated Home Layouts & Floor Planning Jan 25 - April 25

- Developed a novel AI-powered framework leveraging the fine-tuned FLAN-T5 Transformer model to automatically generate 2D home floor plans from natural language prompts, bridging the gap between human intuition and precise geometric specifications.
- Pioneered the use of grid-based representations and Conditional Generative Adversarial Networks (CGANs) to encode architectural floor plans, significantly reducing training time by approximately 70% and enabling fine-grained control over generated layouts based on user-defined conditions.

Co-Curriculars

IEEE: Machine Learning-Based Threat Detection in Crowded Environments.
Coding: Solved 140+ Data Structures and Algorithms problems on Leetcode.