MANIDEEP CHOWDARY KAMMA

AI Engineer

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SKILLS

Artificial Intelligence

Computer Vision

Deep Learning flask

DL Streamer Git

GStreamer keras

NumPy OpenCV Python

PyTorch Deep Streamer

Tensorflow OPENVINO

EDUCATION

Bachelor of Information Technology

Jawaharlal Nehru Technological University, Kakinada

08/2014 - 06/2018

kandukur, India

SUMMARY

Dynamic software developer with overall 4.8 years of experience, with 3+ years of specializing in video analytics, utilizing deep learning and image processing concepts. Proficient in maintaining production-level code ensuring reliability and scalability. Experienced in client interaction, with a track record of gathering requirements and delivered demonstrable, scalable products. Excels in understanding technical intricacies and translating them into practical solutions. Currently looking for exciting opportunities in the field of Artificial Intelligence/ Computer Vision.

EXPERIENCE

Associate Projects

Cognizant, India 02/2022 - 04/2024

Developed and deployed deep learning models like Object Detection and Classification along with Object Tracking.

Implemented **DL Streamer** and **Deep Streamer** pipeline for processing **RTSP** Streams.

Implemented Real Time pipelines to process the live camera feed and generate the meta results.

Implemented a system for the recording of security violations in both **video** formatand images, enabling seamless future reference and analysis. Leveraged **multiprocessing** techniques to efficiently process **multiple camera feeds** in parallel, ensuring **real-time** alert generation and recording of incidents.

Engineered code for license plate detection and recognition, achieving over **96%** accuracy using **image synthesis and Object detection using YOLOv8.**

Implemented **synthetic image generation** with various augmentation techniques, aiding in data generation for training deep learning models.

Well versed with hardware-based optimizations, accelerating inference times using INTELOPENVINO libraries with different precisions (FP32, FP16, INT8).

Developed a **CNN** model using **TensorFlow** and **Keras** to identify age and gender demographics, incorporating **Batch Normalization and Dropout** for faster convergence, achieving over **80**% accuracy for region-specific demographics.

Analyzed security features including illegal parking, left baggage, motion, and wrong-way detection.

Actively involved and contributed Implementing Crowd and Queue algorithms.

Implemented Video analytics platform level capabilities like Object counting, Geo fencing/ROI, Crowd movements, wrong directions, Mask detections.

Expertise in creating multi camera video analytics pipelines.

PASSIONS

Interests

Artificial Intelligence
Deep Learning
Transformers (LLM)
GenAI

LANGUAGES

ENGLISH Proficient ●●●●●

EXPERIENCE

Associate Projects

cognizant, India

ANPR (AUTOMATIC NUMBER PLATE DETECTION) - Saudi Smart city

- Researched and evaluated **YOLOv4 and YoloV8** architectures, integrating them into vehicle number plate recognition pipelines, enhancing detection rates by 10%, particularly in **low-light conditions** using the data provided by the Client.
- Actively part of all the segments like Model development, Model evaluation and Model optimization.
- Contributed in the Data Synthesizing team and developed a generic code base for any country plates.
- Synthesized the 3M + data for training the model with all the possible types.
- Worked to integrate into pipelines for deployment on the intel-based edge hardware to detect the number plate and recognize with the speed of 120 KMPH.
- Recognized the text on the number plate and Plate types live private, Commercial based on the strip types.

PPE KIT and Fire (PERSONAL PROTECTIVE EQUIPEMNT) – Power Plant

- This project aims to address the critical need for enforcing the usage of **helmets** and **vest jackets** in workplace environments where such protective gear is mandatory.
- Actively part of all the segments like Model development, Model evaluation and Model optimization
- By developing a robust detection system, we aim to automatically identify individuals who are not adhering to safety regulations and send alerts to relevant authorities for immediate action.
- Successfully developed a real time detection system capable of accurately identifying individuals without helmets and vest jackets in environments.
- Implemented an efficient alerting mechanism to notify relevant personnel or security systems promptly when PPE violations occur.
- Contributed to improving detection accuracy and reducing the false notifications.
- Part of developing Notification system where Image or video snippet will be attached along with the notifications.

Associate Software Engineer

Mphasis., India 07/2019 - 12/2021

Project - Data Mart

Client: Franklin, Curie, Roche, BMS

Tools Stack: Jasper Studio, Jasper Server, Snow Flake, Putty, ALM, SIP Portal.

Duration: July 2019 – December 2021

Project Scope: This project is all about Reports which is used for different clinical trials documents based on different modules for different clients with in the SIP portal.

RESPONSIBLITIES

- Developed and customized Jasper Reports templates and reports enabling clients to visualize and analyses their data effectively for shared investigator Platform
- Gathered Requirements, designed data types and implemented complex jasper reports solutions tailored to their specific business needs.
- After developing the report used to deploy the jrxml into jasper server and used to do basic sanity for that report.