Synopsis on

Crowd Counting and Monitoring Videos for Surveillance.

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ABSTRACT:

- In public venues, crowd size is a key indicator of crowd safety and stability.Monitoring the number of people and crowd density levels are important.

- Crowd counting methods are to output a density map of the crowd and then obtain the head count by integration.

- Data fetched by CCTV will be monitored for surveillance.

Problem Statement

- Detecting objects from CCTV surveillance videos can solve many real-life problems. If we can count/monitor the crowd then we can have the valuable information about the objects within the videos.

- Knowing that, how many peoples are coming in and going out in the premises can help us to draw valuable insights.

- One common challenge for any CNN based crowd counting and monitoring is to meet the real-time processing requirements where the Deep Learning model should run on embedded devices with limited processing power and energy.

- Another challenge in crowd counting is the occlusion, preserving the object across multiple frames when they overlap with each other.

- In the proposed work the Deep Learning based methods will be applied to recorded video of crowds to count/monitor the human beings.

INTRODUCTION

- Detecting and counting people.

- Analysing data for video surveillance.

PROPOSED SYSTEM:

This system is composed of two components

1.Crowd counting.

2.Video surveillance.

LITERATURE REVIEW

- Earlier detection based methods were used which were not feasible for dense crowds.

- Global Regression methods were introduced to overcome this.

- Skeleton graphs are used to detect the crowd(people).

- Monitoring was done using single camera.

TECHNOLOGY STACK

- Python based Computer Vision and Deep Learning libraries

- OpenCV

- Keras

- TensorFlow

- YOLO

- CNN

- Machine Learning

METHODOLOGY

Step 1: Data collection and dataset preparation

Step 2: Developing a CNN based Crowd counting and monitoring model
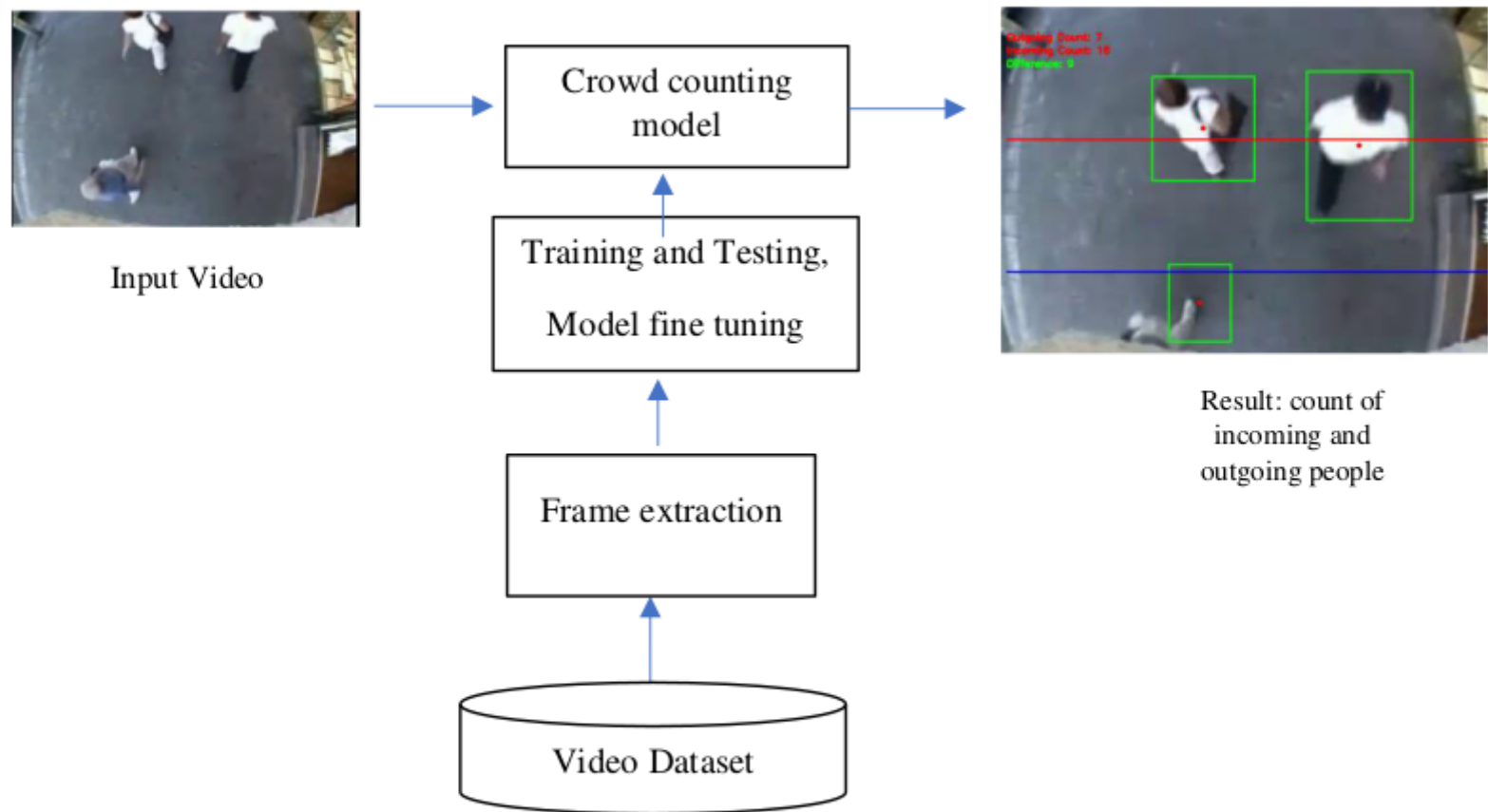
Step 3: Training and experimentation on datasets

Fig 1. Architecture of crowd counting and monitoring

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