



DR. M. S. RAMAIAH



PROJECT POSTER PRESENTATION

Crowd Behavior Analysis for Enhanced Event Safety and Management

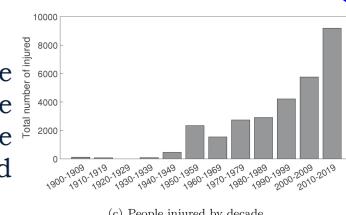
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INTRODUCTION

Crowd management and safety at large-scale events poses significant challenges due to the potential for unexpected incidents like overcrowding. The resulting risks of accidents and stampedes.



OBJECTIVES

1. Density of Crowd:

Measuring the number of people in a given area

2. Anomaly detection:

a) Identify Fast Moving objects:

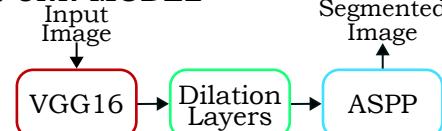
Detecting objects that are moving at a faster than the rest of the crowd

b) Identify Detect People in a Different Direction:

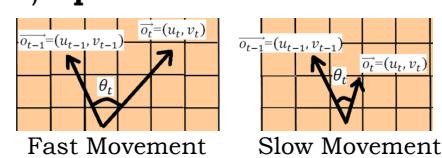
Identifying individuals who are moving in a direction that is different from the crowd

METHODOLOGY

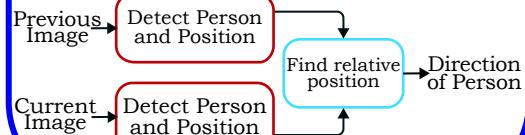
1. CNN MODEL



2. a) Optical Flow

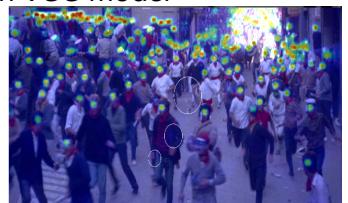


b) YOLO v8 Tracking



RESULTS

1. ASPP gives 15%+ accuracy than VGG model



2. a) Highlights fast moving objects



b) Displays the average direction of crowd movement



CONCLUSION

Our study offers a robust framework integrating deep learning and computer vision for crowd management at large events.

- Accurate crowd density estimation
- Anomaly detection enable swift response to emerging issues
- Real-time people tracking enhances safety measures

Future Scope:

- Integration of multiple sensor modalities
- Modeling and predicting crowd behavior for proactive management strategies
- Integration of crowd sentiment analysis tools