Detect Violence with CNN and LSTM

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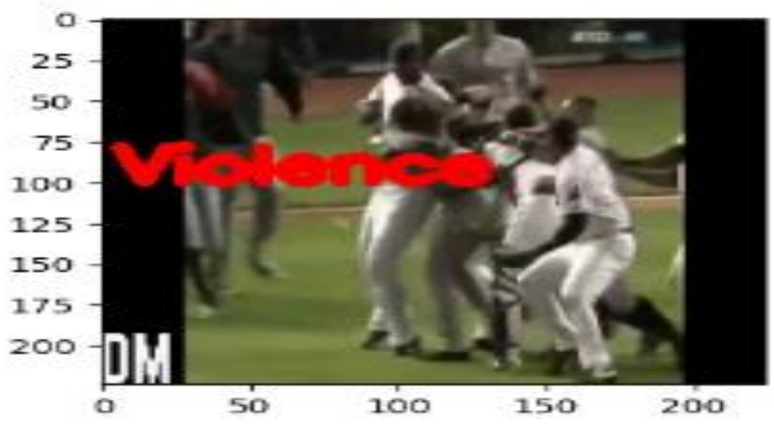
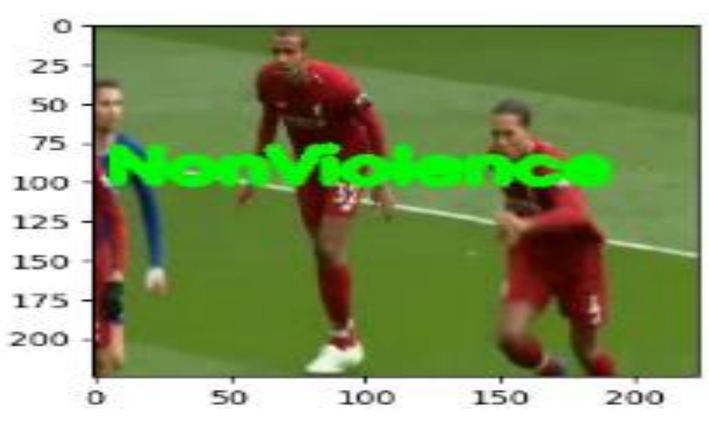
Statement

- Create a system capable of detecting Violent Behavior from video
- Ensure the can efficiently identify and interpret various human actions for physically violent Behavior





Methodology

Model Type: Mobile Net
Architecture :

- For detecting violent behavior, CNNs are employed for detection purposes
- Apply LSTM for analyzing sequential frames extracted from videos.

Rationale

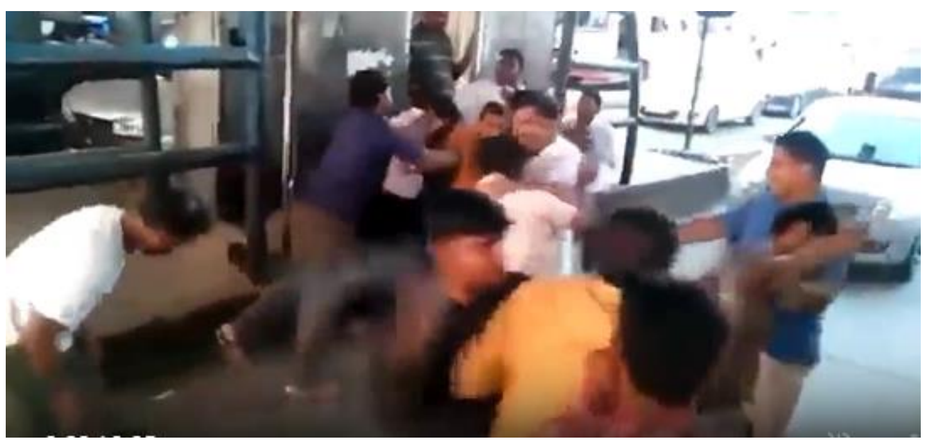
- Detect violent behavior using Convolutional Neural Networks (CNNs) for image analysis.
- Extract frames from videos and employ CNNs to capture visual patterns.
- Use Long Short-Term Memory (LSTM) networks for sequential analysis, considering temporal dependencies in video frames.
- Apply LSTMs to analyze series of frames, enhancing the model's ability to detect dynamic actions, particularly in the context of violence.

Experimental Analysis

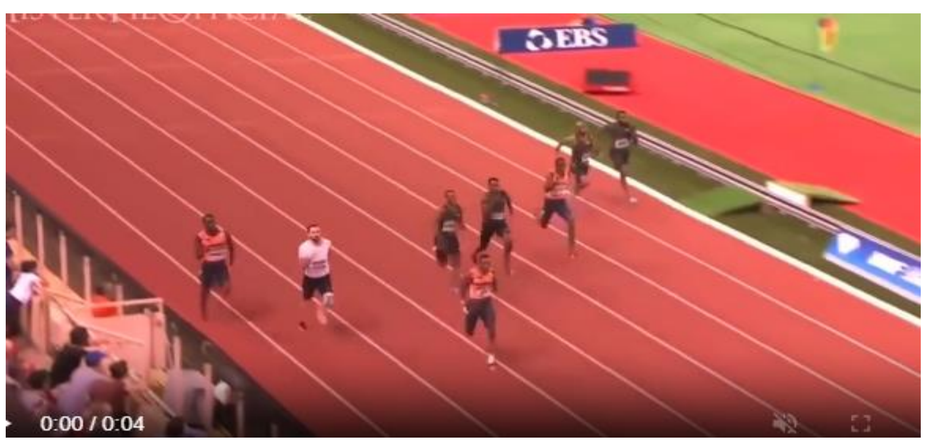
The experimental analysis informs the model's performance, including its generalization to unseen data and areas for improvement, guiding further iterations or modifications.

Accuracy	Precision	F1-score
0.95	0.958	0.95

Results:



Predicted: Violence
Confidence: 0.7110480070114136



Predicted: NonViolence Confidence: 0.8722195625305176

Localization using Trilateration

Project Link: https://github.com/muhammadahsanakhtar/violence-detection
Dataset Link: https://www.kaggle.com/datasets/mohamedmustafa/real-life-violence-situations-dataset