Minor Project Synopsis

Batch: 57

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TOPIC	**Human Action Recognition in sports.**	
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Introduction:

Artificial Intelligence is one of the major branches of technology. It involves designing and building intelligent systems that think like humans, behave like humans and are able to make decisions on their own. One part of AI is to process visual data, this is called Computer Vision.

In today's world, sports has become an important part of society, culture and gaming. Many systems have been developed to help athletes improve their performance and have better engagement with the audience. One of them is recognizing the actions of the players. This makes Human Action Recognition (HAR) a very important area in sports. The task of HAR, which is the focus of this project, is to recognize which human actions are in a particular video sequence, at what time they occur, and where they are located.

Objectives:

- Our main objective is to identify the human actions in a video sequence using image processing and neural networks.
- Another objective is to analyze the HAR system.

Existing System:

Present existing systems are very expensive to compute. They require large datasets and many times give the wrong outputs. Many existing systems use transfer learning techniques in combination with other techniques like neural networks, SVM, etc.

Proposed System:

Our proposed system is to train the model using Openpose for feature extraction then using LSTM for classification.

Software Requirements:

The following are the software requirements:

- Tensor Flow
- Jupyter Notebook
- OpenCV
- Pandas
- sklearn

Hardware Requirements:

The following are the hardware requirements:

- i5 and above processor
- 8gb RAM
- SVGA color Monitor