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Guidelines:

Sports Analytics: Analyzes video footage to track player movements, analyze game strategies, and provide insights into performance.

Sports Analytics Technology: Main Components

Data Acquisition: For this, high-definition cameras are being used; sensors and wearables, at times, may be implemented to track video and other performance data of athletes.

Data Preprocessing: It enhances the video quality and selects the relevant frames to study.

Object Detection and Tracking: It does object detection of players, the ball, and other things through computer vision algorithms and tracks their movement from frame to frame.

Pose Estimation: It analyses the motion that occurs in the body of an athlete and considers action and form.

Feature Extraction: Extract key performance metrics and event detection over the game.

It analyzes and visualizes data: the help of statistical analysis and machine learning aimed at the identification of patterns. It does that with tools like heatmaps and dashboard views.

Integration with external data sources: Integrates video data with other data sources for holistic analysis.

Feedback Loop: Continuously refines algorithms with new data for better performance and improvements in accuracy.

The application of computer vision in automated data collection and the deep analysis of visual information for sports analytics, combined with the automatic tracking of player motion and action, allows for the provision of objective performance measures. It then adds more tactical information on player formations and strategies; it also aids in the prevention of injuries through the analysis of biomechanics, adds enrichment for the game enjoyed by fans with highlights and game statistics, and supports referees by enabling real-times decision-making. Therefore, sports analysis by computer vision technology levels up accuracy, efficiency, and general functionality.