Using Neural Networks to Provide Insights into different aspects of batting and bowling in cricket.

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**Abstract:** Cricket is one of the most popular sports in the world with a global cumulative viewership of over 1.6 Billion [1]. The current and growing popularity of the sport increases not only the viewership but also the overall participation in the sport with more and more newer players entering the cricketing space.

The access to wearable technology and smart phones is easy and the quality of connectivity and on device processing power available has greatly improved in the last decade. However, there is still a deficiency in sports infrastructure within the country. Especially, for newer people entering the sport.

We attempt to provide a cost-effective data-oriented solution to anyone with access to limited funds and a smart-phone to be able to get insight into their cricketing techniques. We attempt to make use of video along with wearable technology and other sensors to provide a trend-based insight into an individual’s game. We will be applying a machine learning model to analyze our data and predict different aspects of their game.

**I. Introduction:** The world, in the last decade, has seen a sudden rise in players of cricket, we see a huge number of youngsters starting at their school levels aspiring to play the highest level of the game. The infrastructure available at the highest level of the game is unmatched, however, while one would expect a trickled effect with some amount of infrastructure available to young aspiring players. It either does not exist, or is too expensive for people to be able to afford it.

The aim of this research is to build a model that can capitalize on the ease of availability of smart phones and provide a deep insight to players at all levels of the game. We shall work with multiple models using various layers of input to build an estimate for each shot, or each ball bowled.

From a batting perspective, we look to analyze video taken of a batsman playing a shot along with other physical data for each shot collected using sensors. Additionally we hope to use a wearable sensor that detects not only motions, but also vitals of a player for a given session among other aspects, outlined ahead.

From a bowlers perspective, we look to use side-on video to look at parameters along with sensors to capture vitals as well as other aspects of motion outlined ahead.

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