

Prediction the Players Performance in Game of T20 Cricket

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Abstract

Cricket is a two-team sport that originated in south-east England and spread throughout the world in the nineteenth century. The world's second most common sport is played over a set number of overs, such as Twenty20 for twenty overs and 50 overs for ODI (One Day International) matches. The duration of a test match is five days. Any team participating in a Cricket match has one primary objective that is to win.

Researchers were able to do statistical analysis of data for pattern recognition, finding factors influencing the game, and predicting the result of a match due to the availability of ball-by-ball data for this bat-and-ball game. However, due to the high level of uncertainty in the game, developing a reliable and accurate model for prediction has become extremely difficult. The number of overs, match type, time span and player combination all influence the outcome model. With the popularity of cricket, the competitiveness, and financial aspect has grown and has made this more challenging.

The current team selection process is done manually with help of domain experts, coaches and former cricketers and it could have been biased towards an individual player, personal liking and disliking and social and political pressure can make an inaccurate decision. Cricket is lacking an evidence-based selection mechanism that can be used to make decisions with the involvement of selectors.

This research focuses on predicting the cricket player's performance with the use of data mining and machine learning techniques. This proposed system is capable of analyzing the players from different viewpoints in order to get insights on strengths and weaknesses under a variety of playing conditions. This system includes a hybrid model that makes accurate predictions by combining several machine learning algorithms. This system tackles the evidence-based selection procedure from the game of Cricket which is lacking for a long period of time. This dissertation addresses the methodologies and technologies used in the creation of this system.

Keywords: Machine learning, Algorithm selection, Player Performance System, Python