**Sports Fantasy Application using ML Approach**

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*Abstract*—The intersection of cricket and machine learning (ML) has given rise to a new era in fantasy sports, empowering enthusiasts to engage with the game on a more analytical and strategic level. This research presents a novel cricket fantasy application enriched with the ML algorithm called Cat Boost, focusing on the prediction of players to be chosen for making a team and its optimization. The core of the proposed application lies in the implementation of Cat Boost algorithm to predict player scores based on historical performance data. Leveraging features such as previous averages, strike rates, and opponent averages, the model aims to provide accurate and dynamic predictions that adapt to the ever-changing cricketing landscape. To enhance user experience and engagement, the application incorporates a recommendation system driven by collaborative filtering. This system employs the algorithm to analyze user preferences, historical team selections, and player interactions, ultimately suggesting optimal team compositions tailored to individual preferences, risk tolerance, and strategic objectives.

Keywords—Cat Boost Algorithm, Euclidean Distance, Manhattan Distance, Minkowski Distance

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##### Acknowledgments

“Acknowledgment(s)” is spelled without an “e” after the “g” in American English.

As you can see, the formatting ensures that the text ends in two equal-sized columns rather than only displaying one column on the last page.

This template was adapted from those provided by the IEEE on their own website.

##### References

1. D. V. Lindberg and H. K. H. Lee, “Optimization under constraints by applying an asymmetric entropy measure,” *J. Comput. Graph. Statist.*, vol. 24, no. 2, pp. 379–393, Jun. 2015, doi: 10.1080/10618600.2014.901225.
2. B. Rieder, *Engines of Order: A Mechanology of Algorithmic Techniques*. Amsterdam, Netherlands: Amsterdam Univ. Press, 2020.
3. I. Boglaev, “A numerical method for solving nonlinear integro-differential equations of Fredholm type,” *J. Comput. Math.*, vol. 34, no. 3, pp. 262–284, May 2016, doi: 10.4208/jcm.1512-m2015-0241.

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