

NO ACCESS

Optimising IPL squad composition: a mathematical framework for efficient team selection on a limited budget in a multi-criteria, multi-objective environment

Pabitra Kumar Dey, Abhijit Banerjee and Dipendra Nath Ghosh

Published Online: August 29, 2024pp 311-340<https://doi.org/10.1504/IJDATS.2024.140649>



ABOUT

Abstract

Selection of the finest cricket squads for Twenty-20 cricket while considering multiple criteria and a limited budget is indeed a challenging problem for team management. For the formation of the best team squads, the objectives could include maximising batting and bowling strength, considering player performances, experiences, age, and captaincy capabilities while spending the minimum amount. To tackle this problem, a multi-objective optimisation approach can be valuable to find the best possible team composition. A comprehensive approach for the selectors was proposed by combining the multi-objective genetic algorithm in a multi-criteria environment. Overall, the aims of this research work are to provide selectors with a mathematical framework that can assist them in choosing the best cricket squad with a lower budget. This approach can help automate the process of selecting teams in a multi-criteria environment, such as player auctions, and provide selectors with a range of optimal options to consider.

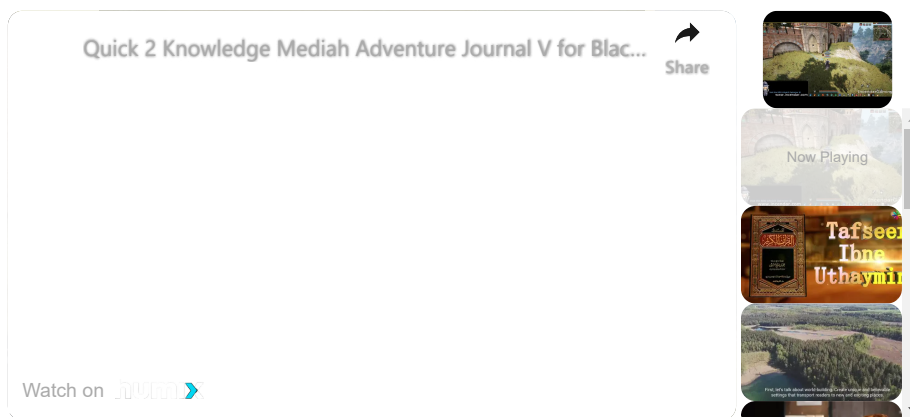
Keywords

optimum team selection, MGDA, modified group decision algorithm, MMOGA, modified multi-objective genetic algorithm, NSGA-II, Non-Dominated Sorting Genetic Algorithm-II, IPL T-20 cricket, strategy planning

International Journal of Data Analysis Techniques and Strategies

Impact Factor & Key Scientometrics

International Journal Of Data Analysis Techniques And Strategies Overview



Quick 2 Knowledge Mediah Adventure Journal V for Black Desert Online BDO



Journal Info

Country



Switzerland

Journal ISSN: 17558050, 17558069

Publisher: Inderscience Publishers

History: 2011-2021

Journal Homepage: [Link](#)

How to Get Published: