

Suparna Dhar · Sanjay Goswami ·
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Chandan Mazumdar (Eds.)

Communications in Computer and Information Science

2224

Analytics, Machine Learning, and Artificial Intelligence

Second Analytics Global Conference, AGC 2024
Kolkata, India, March 6–7, 2024
Revised Selected Papers

 Springer



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ISSN 1865-0929 ISSN 1865-0937 (electronic)
Communications in Computer and Information Science
ISBN 978-3-031-75156-1 ISBN 978-3-031-75157-8 (eBook)
<https://doi.org/10.1007/978-3-031-75157-8>

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Machine Learning-Driven Feature Selection for Performance Analysis in Student Mental Health

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Abstract. The National Education Policy (NEP) 2020 significantly impacts students' mental health by introducing a series of reforms aimed at creating a more balanced and supportive learning environment. This change reduces academic stress and fosters a deeper understanding of subjects. The term "student's mental health" encompasses students' psychological and emotional well-being, covering various aspects such as thoughts, feelings, and behaviors. It is crucial to recognize these features appropriately. This process enables identifying and prioritizing key factors that exert a substantial impact on academic outcomes. It explores the relationship between academic performance and the mental health of students. Therefore, a holistic approach has been made to scrutinize the consequences of the feature selection to analyze the mental health for the performance evaluation of students. The study uses a data-driven approach, collecting information from a diverse sample of students, including academic records, standardized test scores, and self-reported mental health assessments. The main objective of the research is to cultivate a more comprehensive and adaptive approach to student care, to enhance students' overall well-being. By acknowledging the impact of the National Education Policy (NEP) 2020 and its reforms on students' mental health, the study seeks to contribute to the creation of a learning environment that is not only academically enriching but also supportive of students' psychological and emotional needs.

Keywords: Students' Mental health · Feature selection · Feature Extraction method · Decision Tree classifiers · Support Vector classifiers

1 Introduction

NEP 2020 [22] emphasizes the importance of inclusive education, catering to diverse learning needs, and proposes the integration of counseling services within educational institutions. The provision of counseling aims to offer students psychological support,