Technology-Enhanced Collaborative and Blended Learning Ensemble Learning: An Approach in Artificial Intelligence

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Abstract: *Progressive teaching methods are methods of improving teaching and learning performance. A variety of innovative teaching methods are now in use around the world. In addition to face-to-face classes, hybrid classes also include e-learning. The use of technology and multimedia is detailed. It covers the use of smart devices for various tasks such as teaching, designing surveys, assessing students, providing feedback, and research methodology. The application of innovative teaching and learning methods is very important if we want to inspire and arouse students' desire and enthusiasm for learning. The role of education is not only for faculty to teach, but to make it understandable to students from diverse cultural and linguistic backgrounds and to quickly familiarize them with the standards expected of them. It's common for students to drop grades because they don't know what level they're at or what their instructor expects of them. Teachers should therefore strive to use innovative methods in such a way that the student's learning process is as fluid as possible and the methodologies used are conducive to learning. Innovative teaching and learning methods such as short lectures, simulations, role-plays, portfolio development, and problem-based learning (PBL) are helping to keep pace with rapid technological advances and develop the jobs needed in the near future. Decades ago, in the field of machine learning and data mining, the development of methods of ensemble learning received significant attention from the science community. Machine integration techniques incorporate multiple learning acquisition skills and better performance of guesswork than you would find in any available learning skills alone. Combining multiple learning models is demonstrated in thought and experimentation providing better performance than single-foundation students. In a book, mix learning algorithms form a dominant and high-level approach to high throughput performance, thus applied to real-world problems ranging from face-face-to-facetional recognition through classification and medical diagnosis in financial forecasting.*

Keywords: Data Mining, Ensemble Learning, Emotional Recognition, Financial Forecasting.

I. INTRODUCTION

The main purpose of this paper is to present the latest developments related to all genres of ensemble learning algorithms, frameworks, and research methods, and the impact of their performance on the diversity of the problems of the real world. Over the decades, the development of ensemble learning methods and techniques has received much attention from the scientific and industrial communities. The basic concept behind these methods is a combination of a set of various predictive models for obtaining a global integration model that produces reliable and accurate measurements or speculation. Theory and exploration evidence have proven that combination models provide much better predictive performance than one model. Along with this line, various learning skills and techniques have emerged they developed and acquired their app with various categories and reversed real word problems.

II. ENSEMBLE LEARNING AND APPLICATIONS

One of the applications regarding ensemble learning is an algorithm for the Detection of Lung Abnormalities from X-Rays collectively targeted learning algorithm based on the abnormal separation of the lungs from Chest X-rays was developed. The proposed algorithm uses a new weighted voting system that provides a vector of instruments for each part according to its accuracy in each class. The proposed algorithm was extensively tested on three world-famous real-

world benches, namely Pneumonia, chest X-ray dataset from Guangzhou Women and Children's Medical Center, Tuberculosisdata from Shenzhen Hospital, and CT-medical cancer imaging data. Numbers presented in the tests showed the effectiveness of the proposed method of combining simple voting Strategy and other traditional guarded methods.

Another application is Gray-Box Ensemble Model Uses Black Box and White-Box Intrinsic Translation by Pinellaset. In this interesting study, the authors proposed a new framework for the development of a Gray-Box learning model based on non-binding philosophy. The advantages of the proposed model areal most as accurate as the Black-Box and are described as a White-Box model. Specifically, in their proposed framework, the Black-Box model was used to enlarge a small database with the original label, adding a great model reliable prediction for large unlabeled databases. Consecutively, an expanded database was used in training the White-Box model that greatly enhances the interpretation and exploitation of the final model (ensemble). In the evaluation of the flexibility and efficiency of the proposed Gray-Box model, the authors used six benches from three real-world domains, namely, finance, education, and medicine. According to their detailed experimental research, the authors claim thatthe proposed model reported comparative and sometimes better predictable accuracy compared to that of a Black-Box while translating simultaneously as a White-Box model.

Zvarevashe and Olugbarapresented a research paper entitled "Ensemble Learning of Hybrid Acoustic Features for Speech Emotion Recognition". This is another useful application of ensemble learning where signal processing and machine learning methods are widely used to perceive people's feelings based on features extracted from video files, out of 4 facial expressions or speech gestures. The authors have studied the problem with many classification models they could not properly perceive feelings of fear with the same level of accuracy as other emotions. To solve this problem, they suggested a good way to improve the accuracy of the fear again the recognition of other emotions from speech signals, based on the process of extracting an interesting feature. In detail, their draft provides introductions to discriminatory aspects of speech from the many sources compiled later to form a new set of acoustic hybrid features. The authors conducted a series of experiments on two social media using a variety of sections to classify the state of the art. The submitted analysis that reported the effectiveness ofthe method, provided evidence that the use of new features has increased overall performance and the ability of all stages of integration.

III. CONCLUSION

Teaching methods that do not destroy goals can be considered innovative teaching methods. There, researchers believe that the central goal of education is to get information or knowledge into the minds of students. There are many ways to provide Education is the light that points in the right direction for humanity to take off. The purpose of education is not only to make students literate but also to promote rational thinking, knowledge, and independence. If there is a desire for change, there is hope for progress in any field. Creativity can be developed and innovative teaching and learning benefits both students and teachers.

Combining can make better predictions and gain better performance than any single model offers. Consolidation reduces the spread or spread of predictions and model performance. They are also expected to encourage further research into new strategies for various domains. Future approaches may include ensemble learning together to improve predictive accuracy, machine understanding, and improve model reliability.

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