**MACHINE LEARNING AND DEEP LEARNING APPROACHES ON STUDENTS’ SOCIAL MEDIA ADDICTION**

Using social media too much by students has become a concern because it might hurt their progress in school, their minds, and general health. It examines how many machine learning and deep learning models can predict and classify a student’s social media addiction using demographic details, social media actions, and the record’s outcome measuring sleep and grades. The data came from many countries to different levels of education. This was processed further to handle gaps and change categorical data into numerical. The Addicted\_Score was divided into three groups called low, medium, and high. The data was scaled for features and divided into 80% for training and 20% for testing to get it ready for model training. The analysis of used models, such as LightGBM, CatBoost, SVM, gradient boosting, XGBoost, XGBoost+CNN, CNN+SVM, MLP, and vision transformer. CatBoost, CNN\_SVM, and MLP was reached highest accuracy (0.9929) and training time 133.81, 24.23 and 11.57 seconds. Consider the training accuracy values in MLP (0.9965) was highest rather than other DL models. Integrating various layers in these hybrid approaches helped them process the data more effectively and extract essential features from the tabular information. Hyperparameter optimization increased the achievements of the ML, DL and hybrid models. The results reveal that using an ensemble or a hybrid model works better than relying on DL models. The study points out how ML and DL may assist in determining which students are likely to struggle in their learning and how to help them. To improve the model and resolve some of its drawbacks, future studies may study very large datasets or look at real-time data.

Keywords: Social media addiction, ML and DL, Student Performance, Acadamic Impact, Mental Health