Contributions
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Krishna Suryawanshi(S20230010126):
Implemented the K-Nearest Neighbors (KNN) algorithm as a baseline classifier for sleep
disorder detection, contributing to the comparative analysis of multiple machine learning
methods. His analysis emphasized KNN's performance metrics, revealing its limitations in
accuracy while showcasing its efficiency in training speed.

Tejas Kiran Pagare(S20230010172):
Implemented the Random Forest algorithm from scratch for sleep disorder detection,
contributing to a comparative analysis of multiple machine learning methods. His work
highlighted Random Forest's strong predictive accuracy and robustness compared to
baseline models, while also emphasizing its ability to handle feature variability and
prevent overfitting effectively. Performance evaluation was conducted using key metrics
such as accuracy, precision, recall, F1-score, and confusion matrix analysis to validate
the model's effectiveness.

Vasudev Dilware(S20230010253):
Implemented Logistic Regression from scratch for sleep disorder detection. The work
provided a reliable, highly-interpretable linear baseline for comparative analysis against
other machine learning models. Performance was validated using key metrics, including
accuracy, F1-score, and confusion matrix analysis.

Vedant Kasar(S20230010118):
Implemented a Linear SVM from scratch using Stochastic Gradient Descent (SGD) with
hinge loss and One-vs-Rest classification. Contributed to the comparative visualization
framework that displays accuracy, F1-scores, training times, and confusion matrices across
models. Additionally helped build a unified ML pipeline for preprocessing, training, and
report generation enabling complete comparison of KNN, Decision Tree, Random Forest, and
SVM models.

Yashwardhan Singh Chouhan(S20230010268):
Implemented the Decision Tree algorithm as a baseline classifier for sleep disorder
detection, contributing to the comparative analysis of multiple machine learning methods.
His analysis emphasized the Decision Tree's performance metrics, highlighting its
interpretability and feature importance analysis while identifying potential risks of
overfitting in complex datasets.