# CSE - 4878
# MACHINE LEARNING AND DATA MINING LAB

## PROJECT PROPOSAL
## Title: Sleep Disorder Prediction Model

Course Teacher:
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# Team: Sleepyheads

**Members:**
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# Introduction

This project aims at to determine whether an individual has a sleep disorder or not. For this model, results will be classified into three categories: Insomnia, Sleep Apnea and No sleep disorder. The proposed model will use KNN, Naïve Bayes and Adaboost algorithm for predicting the sleep disorder. After using algorithms we will determine which will produce the highest accuracy and use that algorithm for our final model.

# Objective

- Help with early detection in sleep disorder.
- According to the disorder, the model can help introduce treatment plans
- Can help reduce healthcare costs
- The model could give feedback on sleep patterns and potential areas of concern, helping individuals understand how lifestyle factors impact their sleep.

# Methodology

For a comprehensive analysis we will be combining multiples datasets. The datasets will be taken from Kaggle.

The model will predict based on Gender, Age, Occupation, Sleep Duration, Quality of Sleep, Physical Activity Level, Stress Level, BMI Category, Blood Pressure, Heart Rate and Daily Steps.

The classifiers that will be used to achieve the prediction are KNN, Naïve Bayes and Adaboost.

# Conclusion

Determining sleep disorders in individuals is a crucial step towards promoting a healthier and more productive society. Therefore this model will help in trying to determine sleep disorder of various individuals and if we are successful in implementing the idea on a broader scale, we might be able to take a steps towards a society where sleep disorder are effectively identified and managed.

# Thank You!