

# **ABSTRACT**

Malaysians are at risk of being overweight and obese and the government has acted on this issue by applying several soft and hard policies, however, the result is yet to be known. This study is carried out to inspect the effectiveness of the policies and predict obesity risk through Body Mass Index (BMI), physical characteristics, lifestyle, and exercise habits for adolescents. The project collected over 800 primary data, which data then cleaned and pre-processed for further analysis and training. This project adopted CRISP-DM methodology and Naïve Bayes, K-Nearest Neighbors, and Multilayer Perceptron techniques were used to build the prediction models. The results show that the Naïve Bayes classifier outperformed with an accuracy of 96.67%. In addition, the best model was deployed in a simple website that allows users to key in their characteristics and provide obesity risk prediction.

*Keywords: Body Mass Index (BMI), Obesity, Machine Learning, Naïve Bayes, K-Nearest Neighbors, Multilayer Perceptron*

**SDG Goal 3: Ensure healthy lives and promote well-being for all at all ages**