**Conclusions**

This study utilizes a machine learning algorithm to analyze EEG signals for effective depression detection. We use preprocessed data where 95 healthy controls and 266 depressed participants are available. Parameter used in the model based on previous work []. This approach showed higher productivity in recognizing depression based on trial data. We use two machine learning models - Random Forest, and XGBoost. XGBoost achieved higher accuracy with an 82.57% accuracy rate. In the future, we try to implement other ML algorithms to make a comparative analysis based on our research. Also, try to use larger datasets to check the model's accuracy. Depression detection using machine learning techniques is a complex calculation. To get more accurate results data should be accurate and noise-free. Noise can directly impact data. So careful to selecting data and preprocessed data. Our study can’t handle the data processing part because we used preprocessed data. Future studies can be carried out that take these factors into our study.