**A Machine Learning Approach for Predicting Suicide Among Schools, Colleges, Universities, and Madrasah Students in Bangladesh**

Suicide is a major public health concern worldwide, and in Bangladesh, the prevalence of suicide among students in educational institutions is a serious problem. This thesis work introduces a new machine learning method to estimate the risk of suicide in Bangladeshi students enrolled in colleges, universities, and madrasahs. The aim of this study is to create a proactive system that can detect students who are at risk of suicide and offer prompt interventions to reduce the likelihood of suicide.

The research makes use of an extensive dataset that includes behavioural and psychological markers gathered from a wide range of student samples, in addition to demographic, academic, and social variables. A variety of machine learning algorithms are used to create predictive models for suicide risk assessment, such as deep neural networks, decision trees, and support vector machines.

The study's findings demonstrate the potential of machine learning to accurately and precisely identify high-risk individuals. In terms of sensitivity and specificity, which are critical for early intervention efforts, the model performs admirably. Furthermore, this study offers insightful information about the major risk factors linked to suicide among Bangladeshi students.

The conclusions of this thesis have important ramifications for Bangladeshi policymakers, mental health practitioners, and educational institutions. Educational institutions can proactively address the mental health needs of their students by using the predictive model and its accompanying interventions. This will ultimately reduce the incidence of suicide and promote a safer and healthier learning environment.

This study adds to the expanding corpus of research on suicide prevention and emphasises the significance of applying machine learning methods to the pressing problem of student suicide in Bangladesh. In order to promote students' mental health within the educational setting, future work may involve the development of a scalable, automated system as well as the integration of real-time data sources.