

ABSTRACT

The background of this problem arises from the increasing number of mental health disorders among workers, with increasing technological advances making many companies switch to more flexible work systems. The shift from conventional work systems to remote and hybrid work models reflects an adaptation to the need for flexibility, but also poses psychological challenges. The high incidence of depression, anxiety and burnout in Asia emphasizes the importance of early detection of mental disorders in the workplace as a preventive measure.

In response, this study adopts a multi-level multi-class (MCML) approach to classify workers' mental health conditions. Using the Random Forest algorithm and the MCML approach, demographic data, work patterns, and mental health indicators were analyzed to predict the psychological state of individuals, both symptomatic and normal. The results show that remote workers are most prone to symptoms of anxiety and fatigue, while hybrid workers tend to have a more even distribution ratio of psychological conditions.

The SLMC approach yielded 36% accuracy, close to random guessing, while MCML performed better with 79% accuracy at level 1 and 45% at level 2. This suggests that the multilevel structure of MCML is more effective in capturing the complexity of the data. Overall, the MCML model, especially at level 1, proved to be more reliable in classifying mental states and can be the basis for developing more appropriate mental health interventions in the work environment.

Keywords: Mental Health, Classification, Work Pattern, Random Forest.