

Depression is a major mental health disorder that not only affects the emotional but also the physical and psychological state of the person. Although many researchers have explored numerous techniques in predicting depression, they usually rely on the use of facial expressions alone but it can affect the performance of the model as they are subtle and small. Thus adding additional features like textual analysis along with facial expression can help improve the accuracy. Upon entering Engineering I had spent 18 years developing the skills towards an unorganized lifestyle and completing tasks on the fly. Hence when I reached the midpoint of September and had numerous assignments due, lab reports to complete, textbooks to read, and lectures to review, I tended to stumble and forget exactly what needed to be done first. I did manage to complete everything which needed to be done; however, this way of life definitely was not optimal given the fact that the workload was only just beginning. Luckily, the very first assignment we had to do in ENGG 100 was to complete a timetable. While I initially skimmed through the assignment and created a half-baked timetable with a limited list of future assignments, I realized part-way that the timetable could provide me with a method of staying on top of my daily life. Through making the timetable I realized that a lot of time was wasted in not knowing what to do or where to go and decided to create a detailed google calendar to work in tandem with the timetable. By doing so I have been able to keep track of all my assignments and events, allowing me to get things done quickly and efficiently. Without the timetable, I most likely would still be managing to keep up with the first semester workload; however, I can say with confidence that the timetable allowed me to see the bigger picture and eased my stress all-around. This paper introduces a technique to predict depression status by combining the result from facial expression and sentiment analysis. Over the last couple decades, artificial intelligence (A.I) has had an increasingly apparent role in analyzing patterns and making predictions. As this technology grows, it is now possible to identify patients' mental disorders with machine learning. One extreme mental disorder is depression; the World Health Organization (WHO) predicts depression to be the most disabling disease worldwide by 2030 [1, p.1] with it currently affecting more than 264 million people worldwide [2, p.1]. As such, it is vital that depressive people are swiftly identified. Numerous research has been conducted on A.I's possible applications in depression diagnosis. This report discusses two such possibilities: identifying depression through analyzing twitter posts [2] and using facial and textual analysis to predict patient depression severity [1]. Over the years, stress, anxiety, and modern-day fast-paced lifestyles have had immense psychological effects on people's minds worldwide. The global technological development in healthcare digitizes the scapious data, enabling the map of the various forms of human biology more accurately than traditional measuring techniques. Machine learning (ML) has been accredited as an efficient approach for analyzing the massive amount of data in the healthcare domain. ML methodologies are being utilized in mental health to predict the probabilities of mental disorders and, therefore, execute potential treatment outcomes. This review paper enlists different machine learning algorithms used to detect and diagnose depression. The ML-based depression detection algorithms are categorized into three classes, classification, deep learning, and ensemble. A general model for depression diagnosis involving data extraction, pre-processing, training ML classifier, detection classification, and performance evaluation is presented. Moreover, it presents an overview to identify the objectives and limitations of different research studies presented in the domain of depression

detection. Furthermore, it discussed future research possibilities in the field of depression diagnosis.