Depression is an emotional state experienced by humans, which significantly impacts their day-to-day existence. Detecting depression in its early stages is vital to prevent self-harm and suicide. Previously several attempts have been made to recognize depression cues from text written in human languages like English, Arabic, Spanish and Chinese etc. However, low resource languages like Urdu have received comparatively less attention. One of the contributing factors is lack of extensive Urdu corpora related to depression despite the fact more than 300 million people globally use Urdu as either their native or second language. The complexities of Urdu language tied to its script, limited standardized resources, morphological variations, linguistic variation and semantic ambiguity mainly contribute to the challenges of identification and recognition of depression from Urdu text. To effectively identify depression in individuals, a comprehensive system is required. This study aims to identify depression from text generated in Urdu language, using natural language processing and deep learning techniques. The proposed model integrates CNN, biLSTM, an attention mechanism, and a Transformer encoder, achieving accuracy of 96.56% when optimized.

Keywords: Depression Detection, Urdu Text Analysis, Deep Learning, Natural Language Processing, Sentiment Analysis, Text Classification, Mental Health