

ABSTRAK

Stres merupakan masalah umum yang dialami mahasiswa, terutama di Fakultas Teknik yang memiliki beban akademik tinggi. Minimnya kesadaran akan kondisi psikologis sering membuat mahasiswa tidak menyadari tingkat stres yang dialaminya. Penelitian ini bertujuan membangun sistem *self-assessment* psikologis berbasis digital untuk mengukur tingkat stres mahasiswa menggunakan instrumen PSS-10 dan metode klasifikasi *K-Nearest Neighbors* (KNN). Data diperoleh dari 100 responden mahasiswa Fakultas Teknik Universitas Malikussaleh. Proses klasifikasi dilakukan ke dalam tiga kategori yaitu ringan, sedang, dan tinggi. Hasil pengujian menunjukkan sistem memiliki akurasi rata-rata 83%, dengan *precision* tertimbang 79,18%, *recall* tertimbang 84,70%, dan *F1-score* tertimbang 80,10%. Sistem ini diharapkan dapat membantu mahasiswa memahami kondisi stres mereka secara mandiri dan menjadi langkah awal deteksi dini gangguan psikologis.

Kata Kunci : Stres, PSS-10, Self-Assessment Psikologis, K-Nearest Neighbors

ABSTRACT

Stress is a common psychological issue experienced by university students, particularly in high-pressure academic environments such as engineering faculties. This study aims to develop a digital self-assessment system to measure student stress levels using the Perceived Stress Scale (PSS-10) and the K-Nearest Neighbors (KNN) classification method. Data were collected from 100 respondents from the Faculty of Engineering at Universitas Malikussaleh. The system classifies stress levels into three categories: mild, moderate, and severe. Testing was conducted using 5-fold cross-validation. The evaluation results show an average accuracy of 83%, weighted precision of 79,18%, weighted recall of 84,70%, and weighted F1-score of 80,10%. These findings indicate that the system is capable of providing fairly accurate stress classification and can serve as a useful tool for independent stress detection.

Keywords : Stress, PSS-10, Psychological Self-Assessment, K-Nearest Neighbors