

**IMPLEMENTASI *AUTOMATED ESSAY SCORING* PADA PENILAIAN
KEMAMPUAN MEMBACA DAN MENULIS SISWA SMP DI
KABUPATEN KUNINGAN MENGGUNAKAN MODEL *LONG SHORT-
TERM MEMORY* BERBASIS *WEBSITE***

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ABSTRAK

Penilaian esai yang dilakukan secara manual membutuhkan waktu yang cukup lama, terutama jika soal dan jumlah siswa yang banyak. Oleh karena itu, dibutuhkan suatu sistem yang dapat membantu mempercepat proses penilaian tanpa mengurangi kualitas penilaian. Penelitian ini bertujuan untuk mengembangkan sistem Automated Essay Scoring (AES) yang mampu menilai kemampuan membaca dan menulis siswa SMP di Kabupaten Kuningan secara otomatis dan efisien. Sistem ini dibangun menggunakan model Long Short-Term Memory (LSTM) dan diimplementasikan dalam bentuk aplikasi web berbasis Flask. Data jawaban esai yang telah diperoleh akan diproses melalui tahapan prapemrosesan, yaitu ada case folding, stemming menggunakan library Sastrawi, serta tokenisasi. Representasi kata dikonversi menjadi vektor menggunakan Word2Vec. Model LSTM terdiri dari dua layer LSTM, satu layer dense, dan satu layer output. Skor prediksi dinormalisasi menggunakan MinMaxScaler agar sesuai dengan skala penilaian guru. Evaluasi dilakukan menggunakan metrik Quadratic Weighted Kappa (QWK), dengan hasil akhir sebesar 0,81 yang menunjukkan kesesuaian tinggi antara skor model dan skor acuan. Hasil ini menunjukkan bahwa sistem dapat mempercepat proses penilaian esai secara daring dengan hasil yang cukup akurat.

Kata kunci: Penilaian Essay Otomatis, LSTM, Word2Vec, Sastrawi, Flask

**IMPLEMENTATION OF AUTOMATED ESSAY SCORING ON THE
ASSESSMENT OF READING AND WRITING SKILLS OF JUNIOR HIGH
SCHOOL STUDENTS IN BRASS DISTRICT USING A WEBSITE-BASED
LONG SHORT-TERM MEMORY MODEL**

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ABSTRACT

Manual essay grading takes quite a long time, especially if the questions and the number of students are large. Therefore, a system is needed that can help speed up the assessment process without reducing the quality of the assessment. This research aims to develop an Automated Essay Scoring (AES) system that is able to assess the reading and writing skills of junior high school students in Kuningan Regency automatically and efficiently. This system is built using the Long Short-Term Memory (LSTM) model and implemented in the form of a Flask-based web application. Essay answer data that has been obtained will be processed through preprocessing stages, namely case folding, stemming using the Sastrawi library, and tokenization. The word representation is converted into vectors using Word2Vec. The LSTM model consists of two LSTM layers, one dense layer, and one output layer. Prediction scores are normalized using MinMaxScaler to match the teacher rating scale. Evaluation was conducted using the Quadratic Weighted Kappa (QWK) metric, with a final result of 0.81 indicating high agreement between the model scores and the reference scores. These results show that the system can speed up the online essay grading process with fairly accurate results.

Kata kunci: *Automated Essay Scoring, LSTM, Word2Vec, Sastrawi, Flask*