

**INTRODUCTION TO THE PATTERN RECOGNITION OF WRITING
KOREAN SYLLABLES (HANGUL) USING CONVOLUTIONAL
NEURAL NETWORK METHOD**

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ABSTRACT

The increasing popularity of South Korean culture among Indonesian society has led to a growing interest in gaining a deeper understanding of the country, including a desire to master the Korean language. However, learning the Korean alphabet (hangul) often presents challenges due to its characters being unfamiliar to the Indonesian people. Therefore, engaging and interactive learning media are needed to assist in the learning process. Within this endeavor, a learning website called Learn Hangul was developed, focusing on two main features: learning hangul characters and their arrangement, as well as practicing writing syllables using Korean letters. This website was developed using the Convolutional Neural Network (CNN) LeNet-5 to facilitate learning, with black box testing results indicating good functionality. Model performance evaluation yielded satisfactory values, with model accuracy at 89.2%, precision at 89.7%, recall at 88.8%, and an F1-score of 89.2%. Direct testing with users also showed a high success rate, with 80% of respondents experiencing an increase in their knowledge of Korean characters (Hangul) after trying to learn them on the Learn Hangul website.. Thus, the Learn Hangul website serves as a useful learning tool for those interested in studying the Korean alphabet (hangul).

Keywords : *Convolutional Neural Network, LeNet-5, Korean Language, Hangul, Website, Learning Media*