

ABSTRAK

PERBANDINGAN ALGORITMA *TEMPLATE MATCHING* DAN ALGORITMA *FEATURE EXTRACTION* PADA APLIKASI TRANSLITERASI AKSARA SUNDA MENGUNAKAN *OPTICAL CHARACTER* *RECOGNITION* BERBASIS ANDROID

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Fenomena yang terjadi di daerah Provinsi Jawa Barat yaitu dimana masyarakatnya kurang melestarikan budayanya sendiri khususnya sastra daerah terutama aksara sunda, pada era digital ini terdapat penelitian tentang aksara sunda yang dipadukan dengan aplikasi menggunakan algoritma *Feature Extraction* namun belum adanya pembandingan dengan algoritma lain dan tidak bisa mengenali angka sunda, oleh sebab itu untuk mengembangkan penelitian tersebut maka dibuatlah aplikasi aksara sunda dengan implementasi OCR (*Optical Character Recognition*) menggunakan algoritma *Template Matching* dan algoritma *Feature Extraction* yang dimodifikasi dengan tahapan *preprocessing* diantaranya menggunakan algoritma *luminosity* dan *thresholding*, dari kedua algoritma tersebut dibandingkan nilai akurasi beserta waktu prosesnya dalam pengenalan *digital writing* dan *handwriting*, hasil dari pengujian *digital writing* algoritma *Template Matching* memiliki nilai akurasi pengenalan perkata 87% dengan waktu proses 236 ms sedangkan akurasi pengenalan perkarakter 97,6% dengan waktu proses 227 ms, *Feature Extraction* memiliki akurasi pengenalan perkata 98% dengan waktu proses 73,6 ms dan akurasi pengenalan perkarakter 100% dengan waktu proses 66 ms, untuk pengenalan *handwriting*, dalam pengenalan perkarakter *feature extraction* memiliki akurasi 83% dan pengenalan perkata 75%, sedangkan *template matching* dalam pengenalan karakter memiliki akurasi 70% Dan pengenalan perkata memiliki akurasi 66%.

Kata Kunci : Aksara Sunda, Algoritma *Feature Extraction*, Algoritma *Template Matching*, Algoritma *Luminosity*, Algoritma *Thresholding*.

ABSTRACT

COMPARISON OF TEMPLATE MATCHING ALGORITHMS AND FEATURE EXTRACTION ALGORITHMS ON SUNDANESE SCRIPT TRANSLITERATION APPLICATIONS USING ANDROID-BASED OPTICAL CHARACTER RECOGNITION

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The phenomenon that occurs in the area of West Java Province is where the community is less preserving their own culture, especially regional literature, especially Sundanese script, in this digital era there is research on Sundanese script combined with applications using Feature Extraction algorithm but there is no comparison with other algorithms and cannot recognize Sundanese numbers, therefore to develop the research a Sundanese script application was made with the implementation of OCR (Optical Character Recognition) using the Template Matching algorithm and the Feature Extraction algorithm modified with preprocessing stages including using luminosity and thresholding algorithms, compared to the accuracy value along with the processing time in the introduction of digital writing and handwriting, the results of the digital writing algorithm Matching algorithm test have a word recognition accuracy of 87% with a processing time of 236 ms while the results of handwriting recognition have a character recognition accuracy of 97.6% with 227 ms processing time, Feature Extraction has 98% speech recognition accuracy with 73.6 ms processing time and 100% character recognition accuracy with 66 ms processing time, for handwriting recognition, feature extraction recognition has accuracy of 83% and speech recognition 75%, while template matching in character recognition has an accuracy of 70% and speech recognition has an accuracy of 66%.

Keywords : Sundanese Script, Feature Extraction Algorithm, Matching Template Algorithm, Luminosity Algorithm, Thresholding Algorithm.