Universiti Teknologi MARA

Songket Pattern Classification Using BPNN

Nik Aidil Syawalni Binti Nik Mazlan

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ABSTRACT

Songket, a traditional hand-woven cloth from Southeast Asia, is crafted from silk or cotton and adorned with intricate patterns and motifs unique to specific regions or ethnic groups. Serving as a cultural treasure, Songket reflects the creativity and skill of local weavers. The motifs and textures each convey distinct philosophical perspectives on life. The classification of certain patterns may vary due to differences in the perspectives of individual classifiers, leading to potential inconsistencies. Hence, this report presents a comprehensive research investigation into the utilization of backpropagation neural networks (BPNNs) for the classification of Songket pattern. The methodology adopted in this study encompasses the assembly of a dataset images of Songket patterns. The process included data pre-processing and feature extraction. The BPNN algorithm was implemented to proficiently identify and classify Songket pattern, and the evaluation involved analyzing predicted results with different data splitting ratios, such as 70:30 and 80:20. Ultimately, the algorithm yielded satisfactory results, achieving an accuracy of 93.75%. This report encompasses an overview of the project, its limitations, recommendations for future enhancements, and a detailed description of the methodology employed to fulfil the project objectives. Despite to the several system limitations, the project on classifies Songket pattern using BPNN is consider successful. The outcomes of this investigation show the originality and efficacy of employing BPNNs for Songket pattern classification, resulting in good accuracy rates in the classification of Songket. The study's outcomes underscore the capability of the BPNN-based algorithm to attain remarkable accuracy in Songket pattern classification, thus showcasing its viability for real-world applications.

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