Indonesian Journal of Electrical Engineering and Computer Science
Volume 12, Issue 2, November 2018, Pages 722-728

# On the use of edge features and exponential decaying number of nodes in the hidden layers for handwritten signature recognition (Article)

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## Abstract

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Handwritten signatures are playing an important role in finance, banking and education and more because it is considered the "seal of approval" and remains the most preferred means of authentication. In this paper, an offline handwritten signature authentication algorithm is proposed using the edge features and deep feedforward neural network (DFNN). The number of hidden layers in DFNN is configured to be at least one layer and more. In this paper, an exponential decaying number of nodes in the hidden layers was proposed to achieve better recognition rate with reasonable training time. Of the six edge algorithms evaluated, Roberts operator and Canny edge detectors were found to produce better recognition rate. Results showed that the proposed exponential decaying number of nodes in the hidden layers outperform other structure. However, more training data was required so that the proposed DFNN structure could have more efficient learning. 

## Author keywords

Deep feedforward neural network | Edge detection | Exponential decaying | Hidden layers | Offline handwritten signature

## Funding details

| Funding number | Funding sponsor | Acronym | Funding opportunities |
|---|---|---|---|
| RIGS15-070-0070 | International Islamic University Malaysia | IIUM | |
| | International Islamic University Malaysia | IIUM | |

Funding text

The researchers in this study would like to acknowledge the International Islamic University Malaysia (IIUM) for the financial funding of this research through the Research Initiatives Grant Scheme (RIGS) RIGS15-070-0070.

**ISSN:** 25024752
**Source Type:** Journal
**Original language:** English
**DOI:** 10.11591/ijeecs.v12.i2.pp722-728
**Document Type:** Article
**Publisher:** Institute of Advanced Engineering and Science

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