

**19CSP14 - PROFESSIONAL READINESS FOR INNOVATION, EMPLOYABILITY
AND ENTREPRENEURSHIP**

**A NOVEL METHOD FOR HANDWRITTEN
DIGITAL RECOGNIZATION SYSTEM**

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PROBLEM STATEMENT:

To build a user interface application for scanning a hand written notes to convert digital text in quickly.

ABSTRACT

Handwritten digit recognition is the ability of a computer to recognize digits handwritten by humans. Handwritten digits are imperfect and can be produced in many different flavors, making it a difficult task for machines. The solution to this problem is handwritten digit recognition, which takes images of digits and recognizes the digits in the image.

LITERATURE SURVEY

**1)A novel method for Handwritten Digit Recognition with Neural Networks
(MALOTHU NAGU*1, N VIJAY SHANKAR#2, K.ANNAPURNA)**

- ◆ Character recognition plays an important role in the modern world. It can solve more complex problems and makes humans' job easier. An example is handwritten character recognition.
- ◆ Two techniques researched in this paper are Pattern Recognition and Artificial Neural Network (ANN). Both techniques are defined and different methods

for each technique is also discussed.

- ◆ Neural Network is used to train and identify written digits. After training and testing, the accuracy rate reached 99%. This accuracy rate is very high.

2) An effective result-feedback neural algorithm for handwritten character recognition

(Hao Y., Shi Y., Zhang D., Zhu X. 2001)

- ◆ [OBJ]
- ◆ It is designed as an effective neural network by adding confidence back-propagation and input modification, thus both pre-processing and recognition operations are closely integrated [OBJ]
- ◆ The convergence of the algorithm is proved and many experiments show that the error rate in such a result-feedback neural network (RFNN) can be greatly reduced as well as the robust to environmental noise.

3) Handwritten numerical recognition based on multiple algorithms

(Kimura, F. and Shiridhar, M. (1991))

- ◆ In this paper, the authors developed two algorithms for application to recognition of unconstrained isolated handwritten numerals.
- ◆ While both algorithms yielded very low error rates, the authors combined the two algorithms in different ways to study the best polling strategy and realized significant improvement in performance.

4) Recognition of isolated and simply handwritten numerals

(M. Shridhar and A. Badreldin -1986)

- ◆ In this paper the authors describe the results of their investigation into the development of a recognition algorithm for identifying [OBJ]
- ◆ Using a structural classification scheme, the recognition algorithm is derived as a tree classifier.
- ◆ In an extensive test experiment, an accuracy of 99% was realized with isolated numerals. When connected numerals were also included a recognition accuracy of 93% was obtained.

REFERENCES

1)A NOVEL METHOD FOR HAND WRITTEN DIGIT RECOGNITION USING DEEP LEARNING

Rohini.M1 , Dr.D.Surendran² 1 Assistant Professor,Sri Krishna College of Engineering and Technology, 2 Professor, Sri Krishna College of Engineering and Technology 1
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2) AN EFFECTIVE RESULT-FEEDBACK NEURAL ALGORITHM FOR HANDWRITTEN CHARACTER RECOGNITION

Authors:[Xiaoyan Zhu](#),[Yu Hao](#),[Yifan Shi](#),[David Zhang](#)

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3)HANDWRITTEN NUMERICAL RECOGNITION BASED ON MULTIPLE ALGORITHMS

Authors: [F.Kimura^{a*}](#) [M.Shridhar^a](#)

The University of Michigan-Dearborn, Dearborn, Michigan, U.S.A.

4) RECOGNITION OF ISOLATED AND SIMPLY CONNECTED HANDWRITTEN NUMERALS

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