Chapter 1
Literature Survey for Applications of Artificial Neural Networks

Pooja Deepakbhai Pancholi
Ganpat University, India

Sonal Jayantilal Patel
Ganpat University, India

ABSTRACT

The artificial neural network could probably be the complete solution in recent decades, widely used in many applications. This chapter is devoted to the major applications of artificial neural networks and the importance of the e-learning application. It is necessary to adapt to the new intelligent e-learning system to personalize each learner. The result focused on the importance of using neural networks in possible applications and its influence on the learner's progress with the personalization system. The number of ANN applications has considerably increased in recent years, fueled by theoretical and applied successes in various disciplines. This chapter presents an investigation into the explosive developments of many artificial neural network related applications. The ANN is gaining importance in various applications such as pattern recognition, weather forecasting, handwriting recognition, facial recognition, autopilot, etc. Artificial neural network belongs to the family of artificial intelligence with fuzzy logic, expert systems, vector support machines.

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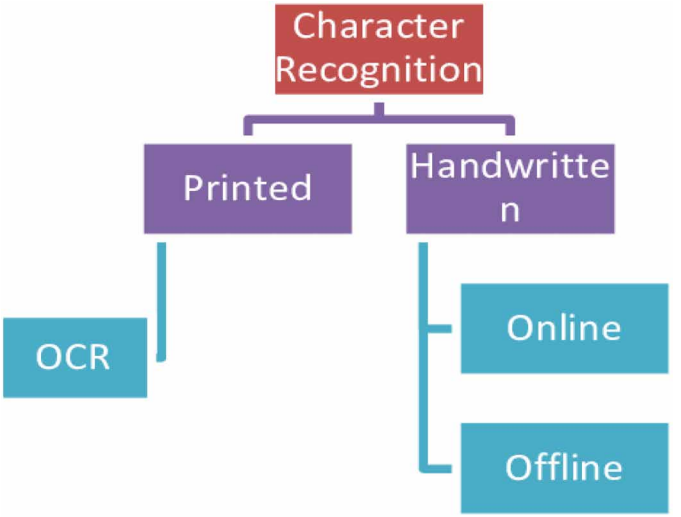
CHARACTER RECOGNITION APPLICATION

Now a day, character recognition has become important because portable devices like Palm Pilot are becoming more and more famous. NN can be used to identify the latter.

Given the ability of ANN to receive a large amount of information and process them to derive hidden, complex and non-linear relationships, ANNs play an significant role in character recognition.

The classification of character recognition is as shown in Figure 1.

Figure 1. Classification of character recognition



OPTICAL CHARACTER RECOGNITION (OCR)

- OCR is a procedure that converts a printed document or a page scanned into ASCII characters that a computer can identify. Computer systems prepared with such an OCR system improve the input speed, reduce certain person error and allow solid storage space, speedy recovery and additional file manipulations. Accurateness, elasticity and velocity are the major characteristics of a excellent OCR system. Some character recognition algorithms based on feature selection have been developed. The performance of the systems was limited by police dependence, size and orientation. The recovery rate in these algorithms depends on the choice of features. Most existing algorithms