

## **AUTOMATIC TITLE GENERATION FOR ARABIC ARTICLES USING NEURAL NETWORKS**

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### **Abstract**

The rapid increase and growth of information over the internet in all languages especially in Arabic, makes locating of the relevant resources a difficult task. In order to make the web more understood and easier to surf through; automatic title generation is one of the important approaches that make this achieved by locating the desired information quickly and easily. Historically and from the viewpoint of Natural Language Processing (NLP) and Machine Learning (ML), automatic title generation is strongly connected to automatic text summarization also it is a non-trivial, complex task. This paper represents a ML approach for teach a Feed-Forward Neural Network, MLP FFNet the hidden relations between the Arabic documents and their human assigned titles.

In our proposed model, a manual pre-processing phase firstly applied on a corpus of Arabic news articles obtained from Aljazzerah news agency. The second phase includes the training for the title generation model. A novel cross-validation technique was proposed using F1 measurement metric which is a special metric for evaluating the machine generated titles and we got an accuracy result of 76%.

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**Key words:** Natural language Processing (NLP), Machine Learning (ML), Neural Networks (NN), Feed Forward Neural Networks (FFNET), Multi-layer Perceptron (MLP).