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Prof. Dr. Mohammed Zeki Khedher

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FORWARD

By the grace of Allah, we are presenting the fourth issue of the third volume of the publication of this Journal: **The International Journal on Islamic Applications in Computer Science and Technology**

The success and the welcome of the previous issues of this Journal by researchers from many countries, gave us great encouragement for continuing issuing in the due time. This Journal is aimed at publishing original research papers in the field of Islamic Applications in computer science and technology. This field is catching a momentum in recent years. This Journal is the first International Journal completely devoted for this specific field. As research is growing in this field, we hope that this Journal will be a platform for researchers working in the field to publish their research. The Third International Conference on Islamic Applications in Computers and Technologies was held at Necmettin Erbakan University located in Konia, Turkey from 1-3 October 2015. It was a successful event, in which more than 40 papers were delivered among more than 100 papers received by the conference. Some of the papers are published in this issue and some others will be published in the coming issues Inshallah. This issue contains four papers.

The first paper entitled: **Improving Holy Qur'an recitation system using Hybrid Deep Neural Network-Hidden Markov Model approach.** In this paper, a large number of experiments carried out to achieve a significant improvement in the accuracy of an Automatic Speech Recognition system. A hybrid Deep Neural Network-Hidden Markov Models (DNN-HMM) approach is used for that purpose. Comparing the Recognition performance of the proposed approach with the traditional baseline HMM approach performed. The paper shows that the proposed approach is superior considering phone Error rate (PER). Experimental results show a significant improvement of the proposed approach in terms of recognition performance. Moreover, the performance of rules like (Vibration, Assimilation, Turning, etc.) is also improved. The proposed approach is tested using N-gram Language Model and Lattice Network.

The second paper is entitled: **Data mining in Sciences of the prophet's tradition in general and in impeachment and amendment in particular**. This paper presents the research background of a platform offering an illustrative graphic based decision aid tool enabling the expert of Hadith to easily observe the chain with chains connected to it as well as its weaknesses and strengthens as per the available evaluations. This enables the expert to rapidly identify where he/she should go in depth (specific narrator, place, period of time, connection to another chain, etc...). It offers an additional tool that helps for decision making namely the link between Hadith's content and timing to Qur'an.

The third paper is entitled: **Automatic Rule Based Phonetic Transcription and Syllabification for Quranic Text**. This paper proposes a transcription technique dedicated for the Quranic text. Transcribing Quranic text is a challenging problem as some letters have different phonemes for the same letter, depending on its neighbors. Different rules are proposed to handle the problem of Quranic text transcription depending on the art of Intonation (Tajweed). In addition, a rule based syllabification technique is presented. This research work is important to implement Quran recitation synthesis prototype as it addresses Quranic text transcription and syllabification. Quran recitation synthesis has main motivation of reducing space of Quranic sound files.

The fourth paper is entitled: **Speech-to-Speech Translation System for the two Holy cities.** A Speech-to-speech (S2S) translation system is proposed in this paper to translate Arabic speech to other languages and the main focus is on the holy cities of *Makkah Al-Mukarramah* and *Al-Madīnah Al-Munawwarah* (Harmayn). They are amongst the world's most visited holy cities, specially every year only in Hajj (Pilgrimage) season more than 1.3 million international Mu'tamirs (pilgrims) visit the two holy cities. Moreover, throughout the year more than 5 million Mu'tamirs visit the holy cities. As the visitors are from all over the world speaking different languages, the Imams (Prayer leaders) in the Harmayn speak Arabic only during their Sermons. This paper is aimed at a Speech-to-Speech translator application mainly from Arabic to other languages in real time. The idea proposed is for an application that could recognize the Voice of the speaker first, be able to recognize the language of the speaker and to ask for the language in which it needs to be translated. It recognizes spoken input, analyses and translates it, and finally utters the translation. It pauses and starts depending on the voice of the person. Any device could be used for translating; it could be a mobile phone which could have an application, Laptop which could use software or any other Hand held PDA's.

Editor-In-chief

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