Keynote Speaker

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Artificial Intelligence Technology in Intelligent Health Informatics

Artificial Intelligence (AI) is devoted to creating computer software and hardware that imitates the human mind. The primary goal of AI technology is to make computers smarter by creating software that will allow a computer to mimic some of the functions of the human brain in selected applications. Applications of AI technology include; general problem solving, expert systems, natural language processing, computer vision, robotics, and education. All of these applications employ knowledge base and inferencing techniques to solve problems or help make decisions in specific domains. In the last years various AI paradigms and computational intelligence (CI) techniques have been proposed by the researchers in order to develop efficient and smart systems in the areas of health informatics and health monitoring systems.AI and CI offers robust, intelligent algorithms and smart methods that can help to solve problems in a variety of health and life sciences areas.

This talk discusses the potential role of the AI and CI approaches, techniques, and theories which are used in developing the intelligent health informatics and health monitoring systems. The talk presents the following techniques: (a) case-based reasoning; (b) intelligent data mining; (c) rough sets; (d) genetic algorithms; and (e) ontological engineering. Strengths and weaknesses of these approaches were enunciated. Also, the talk presents the challenges as well as the current research directions in the areas of health informatics. Examples of the research performed by the author and his associates for developing knowledge-based systems for cancer, heart, brain tumor, and thrombosis diseases are discussed.

Prof. Dr. Abdel-Badeeh M Salem is a full Professor of Computer Science since June 1989 at Faculty of Science, Ain Shams University, Cairo, Egypt. In 1996 he moved to the Faculty Computer and Information Sciences. Now he is a professor emeritus since October 2007. He was a Director of Scientific Computing Center at Ain Shams University (1984-1990). His research includes intelligent computing, expert systems, biomedical informatics, and intelligent e-learning technologies, knowledge engineering and Biometrics. He has published around 400 papers in refereed journals and conference proceedings in these areas. He has been involved in more than 500 conferences and workshops as a plenary speaker, member of International Program Committees, workshop/invited session organizer and Session Chair. He is author and co-author of 25 Books in English and Arabic Languages.

He was one of the founders of the following events, First Egyptian Workshop on Expert Systems 1987, Int. Cairo Conference on Artificial Intelligence Applications in 1992 and Int. Conf. on Intelligent Computing and Information Systems 2002, and one of the main sustainers of annual Int. Romanian Internet Learning Workshop Project (RILW), 1997. In addition he was Secretary of Egyptian Computer Society (1984-1990), Member of National Committee in Informatics – Academy of Scientific Research and Technology (1992-200), Member of Egyptian Committee in the Inter-Governmental Informatics Program, IIP-UNESCO, Paris (1988-1990) and Coordinator of the Annual International Conference for Statistics, Scientific Computing, and Social and Demographic Research (1983-1990). Also, he was a partner of a MEDCAMPUS Projects on Methodologies and Technologies for Distance Education in the Mediterranean (1993-1995). Also, He is a Member of the Editorial Board of 50 international and national Journals in the following countries: Canada; Italy, Romania, Japan, Turkey, UK, and Egypt. Also, He is a member of many Int. Scientific Societies and associations in the USA, UK, Switzerland, Austria, Canada, and Egypt. He is the Editor-in-Chief of the International Journal of Bio-Medical Informatics and e-Health, India, Egyptian Computer Science Journal and Associate Editor of International Journal of Applications of Fuzzy Sets and Artificial Intelligence, Greece. Elected member of Euro Mediterranean Academy of Arts and Sciences, September 25, 2015, Athens, Greece. Member of Alma Mater Europaea of the European Academy of Sciences and Arts, Belgrade, January 2016. Elected member of European Academy of Sciences and Arts, Class VI, Salzburg, Austria.