



## Mohammad-Shahram Moin ICT Research Institute

Mohammad-Shahram Moin obtained his B.Sc., M.Sc., and Ph.D. in electrical engineering, from Amirkabir University of Technology in 1988, University of Tehran in 1990, and École Polytechnique de Montréal in 2000, respectively. Currently, he is associate professor and head of IT faculty in ICT research institute. He has been manager of several research projects, in biometrics, multimedia networking and big data subjects. Dr. Moin served as lecturer of pattern recognition, data compression, data mining, digital signal processing and stochastic processes courses in graduate studies. He published 37 journal papers, 7 book chapters and 71 conference papers. His research interests include pattern recognition, image processing, data analytics and biometrics. Dr. Moin is Editor-in-Chief of Journal of Information and Communication Technology.

### **Synergy of artificial intelligence and big data for good**

Artificial intelligence and big data are technologies that have been talked about frequently in the recent years and have found a special place in the lives of individuals, businesses and government applications. Artificial intelligence is an emerging technology, from a point of view, as it has recently become a phenomenon, playing role in tangible and meaningful applications in daily lives of people. However, in the past decades, artificial intelligence been seen as a theoretical science, which was favored at universities and research centers, which was mostly fantasy-friendly and not tangible to the public. Big data is not as old as artificial intelligence, but because of its high performance, it has quickly been recognized and used in specific applications, especially in businesses and governments. The main reason this transformation of artificial intelligence and the rapid emergence of big data, was the tremendous advances in infrastructure technologies, such as increasing the processing power of CPUs and GPUs, increasing the memory capacity and making algorithms more powerful. Undoubtedly, a major revolution in this field is the introduction of the "deep learning" algorithm.

These two technologies are among the most considered technologies in the ICT Research Institute, and in particular, in its IT Research Faculty. Regarding the big data subject, some projects have been executed since 2016, including "compiling a big data roadmap", "big data regulatory" and "data governance". Numerous research projects and activities have also been done on the field of "artificial intelligence" since 2000.

In this lecture, we intend to present the key points and results of these activities and experiences gained in Iran and will discuss the important topic of "Synergy of artificial intelligence and big

data" from scientific and practical perspectives. To this end, we will discuss the points of commonality and differentiation, as well as the convergence of these technologies, that are increasingly contributing to our lives in the present era. The challenges of developing these technologies in Iran will be outlined and suggestions will be made to overcome them. We will discuss all these topics from the perspective of "AI-Big Data for good", and of course will explain what is meant by "AI-Big Data for good".