The Evolution of Medical Image Processing and Analysis with Artificial Intelligence (AI) – engineering challenges in modern healthcare

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Speaker:

Dr. Mahbubunnabi Tamal
Assistant Professor
Department of Biomedical Engineering
Imam Abdulrahman Bin Faisal University, Dammam

Abstract:

Medical images constitute 90% of medical data. With the ever-increasing scanner resolution and computational power, the number is always growing. On the other hand, medical image processing and analysis techniques as a part of modern healthcare, are rapidly evolving from qualitative interpretations to quantitative disciplines (e.g., personalized medicine). Since there is simply no way humans can turn that much data into useful quantitative information, more than 97% of medical images goes unanalyzed or unused. Smart solutions are necessary to automate the procedures that can provide quantitative information. Artificial Intelligence (AI) can provide such solution and hence, considered as one of the most promising areas of healthcare innovation. This talk will describe how engineers and scientists can come together to develop AI techniques for automated and quantitative medical image processing and analysis procedures. The talk will also highlight the latest developments in the field of AI in healthcare including the future challenges and opportunities.

Bio:

Dr Mahbubunnabi Tamal is currently serving as an Assistant Professor at Department of Biomedical Engineering, College of Engineering at Imam Abdulrahman Bin Faisal University, Dammam, KSA. He has been actively conducting research in applications of artificial intelligence (AI) in medical image processing and analysis for different imaging modalities (e.g., Nuclear Medicine, Computed Tomography and Magnetic Resonance etc.). He completed his PhD in image reconstruction for Positron Emission Tomography from The University of Manchester, UK under the funding of GE Healthcare. Prior to his current position, he worked as a senior research associate at CRUK-EPSRC Cancer Imaging Centre in University of Cambridge and Manchester at Wolfson Molecular Imaging Centre, The University of Manchester, UK and as a research fellow at University of Central Lancashire (UCLAN), Preston, UK. He regularly publish his research findings in reputed international and national conferences and journals