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## Editorial

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### Alireza Souri\*

Department of Software Engineering,  
Faculty of Engineering,  
Haliç University,  
Istanbul, 34060, Turkey  
Email: alirezasouri@halic.edu.tr  
\*Corresponding author

### Parvaneh Asghari

Department of Computer Engineering,  
Islamic Azad University,  
Central-Tehran Branch,  
Tehran, Iran  
Email: p\_asghari@iauctb.ac.ir

**Biographical notes:** Alireza Souri is currently a full time faculty member of the Software Engineering Department as an Associate Professor in Haliç University, İstanbul, Turkey. In the scientific community, he has been listed among the Top 2% Scientist in World released by Stanford University, USA for 2020, 2021 and 2022. Up to present, he has authored/co-authored more than 100 scientific articles and conference papers in established journals. His research interests include internet of things (IoT), formal verification, cloud computing and data mining.

Parvaneh Asghari is a full time faculty member and Assistant Professor in the Department of Computer Engineering at IAU, Central-Tehran Branch (IAUCTB). She received her BS in Computer Software Engineering from the Sharif University of Technology, Tehran, Iran, MSc in Computer Software Engineering, from Iran University of Science & Technology, Tehran, Iran and PhD in Computer Software Engineering from IAU, Science and Research Branch, Tehran, Iran. Her research interests are in areas of distributed systems, IoT, cloud computing and service-oriented computing.

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## 1 Introduction

Integrating healthcare with internet of things (IoT) devices through medical systems increase the performance of biomedical engineering and healthcare applications (Jha et al., 2022). On the other hand, artificial intelligence (AI) can be used to analyse the measured data in internet of medical things (IoMT) (Akan and Geçici, 2023). Hence, it is very useful in prosthetic devices where the brain's intentions are measured and the movements are made accordingly. With more algorithms, it can also be used in neural and brain imaging. This would be of greater help to treat psychiatric patients. From

identifying the tumour to treatment, AI can give a clearer perspective to the physicians and engineers. Additionally, it can also be employed in diabetic care especially in diabetic retinopathy to provide a computer-based solution (Loh et al., 2022). This special issue presents a technical discussion on existing problem statements of healthcare and biomedical engineering. It is more effective in the identification of disease using signal analysis compared to traditional techniques. This special issue mainly provides the convergence of IoT and healthcare technologies, biomedical engineering, lifestyle, aging population, smart personal living applications, etc.

## 2 Summary

In this special issue, we have received 25 submitted manuscripts. After peer-review process, totally eight research studies have been accepted to consider publication in *IJBET*.

In following article, ‘Using artificial intelligence to design healthcare system in IoT’, authors proposed a healthcare system framework for healthcare system virtual teams in social networks based on the agent-based system. The result of this paper designs a configurable, flexible, and non-intrusive healthcare system virtual software framework.

On the other hand, in ‘CT image super-resolution reconstruction via pixel-attention feedback network’, authors propose a pixel-attention feedback network (PAFNet) for CT image super-resolution reconstruction. Specifically, the PAFNet adopts multi-feedback network as backbone to make full use of initial features.

Also, authors in ‘Artificial intelligence for stress monitoring and prediction using wearable sensors in internet of things’ presented a new literature review for main concept of ML methodologies on the IoMT ecosystem.

Authors in ‘CT and MRI image fusion via dual-branch GAN’ proposed a dual-branch generative adversarial network (DBGAN) to fuse the CT and MRI images. The proposed DBGAN is designed in a dual branching structure schema, which consists of a couple of generators and discriminators. In addition, authors in ‘Research and design of online drug mall system based on SOA’ provided an online drug mall system based on the software-oriented architecture (SOA) architecture, the SOA can effectively improve concurrency, scalability, flexibility and low maintenance cost of the online drug mall system.

In ‘Diagnosis results of athletes with ankle joint pain based on the neutrosophic ensemble image’, authors studied the diagnosis results of athletes with ankle joint pain based on the neutrosophic set of images. Also, in ‘Sports training on recovery of nerve function and nerve cell apoptosis in athletes with hemorrhagic brain injury’, authors tried to research on sports training and recover after athletes’ brain injury and whether exercise will affect the apoptosis of nerve cells.

Finally, authors in ‘Deep learning-based gender classification with dental X-ray images’ provided human gender using panoramic dental X-ray images (DXI) with existing machine learning approaches such as image pre-processing, gradient-based recursive threshold (GBRT) segmentation and classification.

### 3 Conclusions

This special issue presents existing peer reviewed technical articles that present novel perspectives and technical aspects of AI for biomedical and healthcare systems. We are appreciated to thank you for support of Editor-in-Chief Professor Gu for this scientific effort.

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