MIUA 2025
29th Medical Image Understanding and Analysis Conference

Multimodal Frameworks in Healthcare Diagnostics

Website: https://mm-hcd.github.io/

Special Session email: mhcd.miua@gmail.com

Introduction:

Multimodal models in machine learning, particularly deep learning, are transforming medical image analysis by incorporating diverse data modalities, such as medical imaging, digital pathology data, lab reports, patient surveys, audio data, health records, and more. By combining data from multiple modalities (e.g., images, texts, and audio), models offer a more holistic understanding of the data. This comprehensive perspective enhances the accuracy and reliability of detection and diagnostic tasks. In addition, these models pave the way for personalised treatment approaches by providing a thorough understanding of patient conditions. In conclusion, multimodal models represent a pivotal step toward achieving a more accurate, robust, and interpreted solution in healthcare and beyond, underscoring their growing importance across research and real-world applications.

Call for papers:

In this special session, we invite submissions that investigate innovative multimodal approaches in healthcare diagnostics. We are looking for original, high-quality papers on the following topics of interest, but not limited to:

- **Integration of Imaging Modalities**: Techniques combining MRI, CT scans, genomic sequencing, etc for enhanced disease detection and diagnosis.
- **Clinical Validation**: Studies validating multimodal approaches in real-world clinical settings.
- **Data Fusion Techniques**: Methods for effective data fusion from heterogeneous sources.
- **Machine Learning and AI**: Applications of deep learning and AI in analysing multimodal data.
- **Wearable Technology**: **Patient-Reported Outcomes**: Incorporating qualitative data from patients to improve diagnostic processes.
- **Interdisciplinary Approaches**: Collaborations between fields such as bioinformatics, radiology, and public health.
- **Case Studies and Applications**: Real-world implementations of multimodal approaches in clinical settings.

- **Important Dates:**

  - **Submission Deadline**: [Monday 24 March 2025]
  - **Notification of Acceptance**: [Friday 2 May 2025]
  - **Camera-ready regular papers due**: Monday 2 June 2025
  - **Conference Dates**: Tuesday 15 - Thursday 17 July 2025

Submission:

Please make sure that you choose the appropriate special session during your submission. The choice at the special session track:
Multimodal Frameworks in Healthcare Diagnostics

Submission is now open via CMT, click here to submit.

Short biography of special session organiser(s):

- **Noha Ghatwary** is currently working as an associate professor at the Computer Engineering Department, Arab Academy for Science and Technology, Smart Village, Giza, Egypt. She obtained her PhD in Computer Science from the University of Lincoln, UK. She co-organized a successful challenge, "EndoCV," for several years, encouraging innovation and collaboration within the field. She has also been part of the organizing committee of the CaPTion @ MICCAI2024 Workshop, held on 6th October 2024. She has published in esteemed, reputable journals and scientific conferences. Her research interests include medical image/video analysis, machine learning, computer vision, and AI applications. https://www.aast.edu/cv.php?disp_unit=&ser=118325

- **Neda Azarmehr** is an Assistant Professor (Lecturer) in Data Science and AI at the Information School, University of Sheffield. She obtained her PhD in Computer Science from the University of Lincoln in collaboration with Imperial College London. Following her PhD, she worked as a Postdoctoral Research Fellow at the University of Sheffield on Cancer Research UK-funded projects in collaboration with the University of Warwick. Recognized as an emerging leader by UKRI and a Fellow of the Higher Education Academy, her research interests span a wide spectrum of AI disciplines, including machine learning and computer vision, with a particular focus on applying AI and computer-aided diagnosis to medical imaging and digital pathology. She has published in national and international journals and conferences and actively contributes to the AI community as a peer reviewer for technical and clinical journals and conferences. https://www.sheffield.ac.uk/is/people/academic/neda-azarmehr

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