



## **ICIRA 2024 Special Session Proposal**

### **Title of the Proposal: Human-Centric AI in Clinical Robotics: Bridging the Future of Healthcare**

#### **Technical Outline of the Session and Topics:**

Outline of the Session: The convergence of human-centric AI and clinical robotics represents a groundbreaking frontier in healthcare innovation. By integrating AI-driven algorithms and robotic technologies with a focus on human cognition and interaction, this interdisciplinary direction has the potential to revolutionize diagnosis, treatment, and surgical procedures. Advancements in artificial intelligence and robot technologies have made the next-generation of healthcare possible that promise to enhance accuracy, efficiency, and accessibility. By focusing on challenges appearing in the wild, this topic is gaining popularity by addressing challenges in current clinical practices. We aim to inspire and invite a set of studies covering either algorithm development or practical applications.

#### Topics of the Session:

- *Human behaviour and cognition analysis*
- *Human-robot interaction*
- *AI and robot assisted diagnosis, treatment and surgery*
- *AI-human collaborative problem solving*
- *Robustness of Human-Centric AI models*
- *Edge computing in healthcare*

#### **Contact details of the Session Organizers**

- *Organizer 1: Jingjing Liu, University of Bristol, [jingjing.liu@bristol.ac.uk](mailto:jingjing.liu@bristol.ac.uk)  
Jingjing Liu got her PhD at Shanghai Jiao Tong University. Her research interests are in multimodal human behaviour analysis and applications in clinical domain. Currently she is a postdoctoral research associate in the School of Computer Science, University of Bristol, with the aim of human behaviour monitoring in home environments using edge computing.*
- *Organizer 2: Chen Feng, University College London, [chen.feng@ucl.ac.uk](mailto:chen.feng@ucl.ac.uk)  
Chen got his bachelor and master degree from Nankai University and Tsinghua University. He is now nearly finishing his PhD project in Queen Mary University*

*of London and joining UCL as a postdoctoral researcher soon. He focuses on various weakly-supervised learning and self-supervised learning problems, and explaining related robustness and uncertainty quantities.*

- *Organizer 3: Guanxiong Sun, University of Bristol, [guanxiong.sun@bristol.ac.uk](mailto:guanxiong.sun@bristol.ac.uk)  
Guanxiong Sun got his PhD at Queen's University Belfast. His research interests are in video understanding and analysis. His PhD research focuses on video object detection, video instance segmentation, and tracking. Recently, as a senior research associate in University of Bristol, he has been investigating multimodal video representation learning and advancing video language models.*