



AI Guided Human-Machine Interactive Systems and Applications

AI-guided human-machine interactive systems enable to support human physical and mental activities and enhance the capacities of machines' learning and adaptation through optimized and explainable interactions and collaborations between users and computers by means of intelligent and data-driven techniques such as data mining, natural language processing, computer vision, reinforcement learning and knowledge reasoning, and model free

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adaptive control. They have been widely applied in interactive manufacturing, interactive product design, intelligent wearable systems, AI-guided medical diagnosis, autonomous automobile driving systems, customer-oriented decision support systems, personalized learning/teaching systems, etc. In the frame of **ISKE2025**, we are organizing this Special Session, aiming to offer a systematic overview of this emerging research field and provide innovative interdisciplinary approaches. It will provide a leading forum for disseminating the latest results of studies, development, and applications of AI-guided human-machine interactive systems.

Topics of interest include, but are not limited to:

- *Interactive user need and behavior prediction and recommendation*
- *Interactive task planning*
- *Interactive environment perception and adaptation*
- *Intuitive interface (speech, voice) support*
- *VA/AR interfaces*
- *Learning from user behavior and feedback*
- *Shared autonomy*
- *Human intention or movement capability estimation*
- *Human in the loop intelligent control*
- *Intelligent and data-driven advanced control*
- *Interactive wearable systems*
- *Interactive industrial product and process design and optimization*

This special session is Jointly organized by **GRAISyHM French Regional Research Association on Automation and Human-Machine Systems in the North of France**, <https://graisyhm.uphf.fr/>) and **Sino-French Joint Laboratory on Automatic Control and Signal Processing of Nanjing University of Science and Technology**. This special context will effectively promote exchanges and collaborations between researchers of different countries and enhance the current international network by integrating new partners. This Collection supports and amplifies research related to [SDG 9 Industry, Innovation & Infrastructure](#)

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