IJCAI-MIGA Workshop

The Workshop & Challenge on Micro-gesture Analysis for Hidden Emotion Understanding (MiGA)

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https://cv-ac.github.io/MiGA2023/

Preface

The 1st MiGA Workshop & Challenge to explore using body gestures for hidden emotional state analysis, (MiGA in short) was held as a joint event of workshop and challenge at the IJCAI 2023 conference, Macao, China.

As an important non-verbal communicative fashion, human body gestures are capable of conveying emotional information during social communication. In previous works, efforts have been made mainly on facial expressions, speech, or expressive body gestures to interpret classical expressive emotions. Differently, we focus on a specific group of body gestures, called micro-gestures (MGs), used in the psychology research field to interpret inner human feelings.

The aim of our MiGA workshop & challenge is to build a united, supportive research community for micro-gesture analysis and related emotion understanding problems. It will facilitate discussions between different research labs in academia and industry, identify the main attributes that can vary between gesture-based emotional understanding, and discuss the progress that has been made in this field so far, while identifying the next immediate open problems the community should address. We provide two different datasets and related benchmarks to inspire a new way of utilizing body gestures for human emotion understanding and bring a new direction to the emotion AI community.

The event was held in a full day with to half day for the workshop session and half day for the challenge session, as well as an invited talk. The topics in MiGA 2023 covered theoretical foundations, technology development, and real-world applications associated with gestures and micro-gesture for emotion understanding including vision-based methodologies for gesture-based emotion understanding, e.g., classification, detection, online recognition. Applications of gestures and micro-gestures are also included, e.g., for emotion assessment in various scenarios like for education, etc. The programme of IJCAI-MiGA 2023 was composed of one invited talk given by Prof. Feng Vankee Lin from Stanford University, and four presentation sessions that included seven full papers, accepted after undergoing a peer-reviewed process.

We would like to extend our sincere gratitude to Prof. Feng Vankee Lin for her inspiring talk, and we appreciate the invaluable contributions of all the speakers who made MiGA 2023 an exceptional event and a vibrant platform for sharing knowledge with the community. Their participation fostered lively discussions on significant and contemporary advancements in the domain, showcasing an exciting program that exemplifies innovative work stemming from the convergence of AI and emotion AI disciplines. We eagerly anticipate the possibility of future events of similar caliber.

Accepted Papers

The following full papers presenting original research works were accepted, all were demonstrated as oral presentation in the workshop.

In ***Challenge Winner Report Session***, Hexiang et al. introduced their second-winner scheme for the Micro-gesture classification track. The method is based on ensemble hypergraph-convolution Transformer. Kun Li et al. presented a framework using joint skeletal and semantic embedding loss for micro-gesture classification, this scheme won the first place in Micro-gesture classification track. Hexiang et al. then introduced the first place scheme on Online Micro-gesture recognition track with a graph-convolution and multiscale Transformers.

In ***Workshop Session,*** Yoon Lee reported a newly-developed system that uses behaviors to provide feedback loop for attentive E-reading (BFLAe) via a real-time computer vision approach. In time-series analysis. Wenxuan Yuan presented a framework called MSTCN-VAE: An unsupervised learning method for micro gesture recognition via variational auto encoders. Xinge Peng reported a method that uses multi-modality fusion for emotion recognition in videos. At last, a representation learning work from Atif Shah for topology-adaptive micro-gesture recognition and analysis was reported.

Invited talk

Emotional well-being and brain aging research: implications for affective computing (Feng Vankee Lin, Stanford University, USA.)

Organizing Committee

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