

2nd Workshop on Social Affective Multimodal Interaction for Health (SAMIH)

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ABSTRACT

This workshop discusses how interactive, multimodal technology such as virtual agents can be used in social skills training for measuring and training social-affective interactions. Sensing technology now enables analyzing user's behaviors and physiological signals. Various signal processing and machine learning methods can be used for such prediction tasks. Such social signal processing and tools can be applied to measure and reduce social stress in everyday situations, including public speaking at schools and workplaces.

CCS CONCEPTS

• **Applied computing** → **Health care information systems.**

KEYWORDS

cognitive behavioral therapy; motivational interview; social skills training; social signal processing; affective computing; physiological signal processing; virtual agents; social robotics

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1 WORKSHOP GOAL

Social Skill Training is often used in the multimodal Interaction research community as an umbrella term for systems that aim at training social skills: managing appropriately verbal and nonverbal behaviors when interacting with one or more persons, in relation with various communicative functions such as turn taking and emotions.

People with social affective deficits have difficulties controlling their own social behavior and also suffer from interpreting others' social behavior. Behavioral therapy (eg with a clinician) and Social

Skill Training (SST) are used in medical settings [2]. Patients are trained with a coach to experience social interaction and to reduce social stress. SST includes a role-play of a simulation of actual situations [3, 4, 6, 13, 17]. In addition to behavioral training, cognitive therapy [8] and motivational interviewing are also useful to better understand and train social-affective interaction [10]. All these methods applied with a human clinician are effective but expensive and difficult to access.

This workshop is looking for works describing how interactive, multimodal technology such as virtual agents [15] can be used in social skills training for measuring and training social-affective interactions [5, 7, 9]. Sensing technology now enables analyzing user's behaviors and physiological signals (heart-rate, EEG, etc). Various signal processing and machine learning methods can be used for such prediction tasks [11, 12, 14]. Beyond sensing, it is also important to analyze human behaviors, to model and to implement training methods (e.g. by virtual agents, social robots, relevant scenarios, design appropriate and personalized feedback about social skills performance). Such social signal processing and tools can be applied to measure and reduce social stress in everyday situations, including public speaking at schools and workplaces [18]. Target populations include depression, Social Anxiety Disorder (SAD), Schizophrenia, Autism Spectrum Disorder (ASD), but also a much larger group of different social pathological phenomena [1].

In this workshop, we invite participants from academia, industry or clinical settings to present and discuss social-affective design of multimodal training for health.

This workshop was organised last ICMI2020 and had great success (2 invited speakers + 9 presentations + 57 participants) [16].

2 WORKSHOP CONTENT

2.1 Call for papers

The following keywords describe the topics of the workshop. These themes and topics will be discussed at the workshop.

- Cognitive behavioral therapy
- Motivational interview
- Social skills training

We also include broad range of technical terms such as:

- Social signal processing
- Affective computing
- Physiological signal processing

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- Virtual agents
- Social robotics

2.2 Invited Speakers

In addition to the submitted papers, we also have two invited speakers: Dinesh Babu Jayagopi, IIIT Bangalore, India and Takashi Kudo, Osaka University, Japan. These researchers were selected to bring perspectives from both the social skills training and the psychiatric and clinical fields.

3 WORKSHOP ORGANIZATION

3.1 Review Process

Invited program committee members represent a broad spectrum of expertise. Each paper received at least 2 reviews. Selection of accepted papers was based on whether there is sufficient merit of the work judged by the reviewers. The accepted papers were then subdivided for (virtual) oral presentation.

3.2 Organising Committee

- Hiroki Tanaka (Nara Institute of Science and Technology, Japan)
- Satoshi Nakamura (Nara Institute of Science and Technology, Japan)
- Jean-Claude Martin (CNRS-LISN, Université Paris-Saclay, France)
- Catherine Pelachaud (CNRS-ISIR, Sorbonne University, France)

4 CONCLUSION

Overall, we are pleased with the diversity of works that will be presented at this workshop. This provides an interesting opportunity to discuss interdisciplinary perspectives on the workshop topics and to further promote collaboration. We strongly believe that a more interdisciplinary perspective (eg academia, industry or clinical settings) will be extremely beneficial in increasing the impact of research on technologies for the understanding and influence of social affective multimodal interaction for health.

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