Call for Contributions

1. Inform the Chair
2. Submission URL:
https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=VISUAL+2021+Special
Please select Track Preference as **SLS&R**
3. Note: *For 2021, all events will be held in a hybrid mode: on site or virtual choices (live, prerecorded videos, voiced presentation slides, and .pdf slides). We hope for better times allowing us to return to the traditional on site scientific events. However, we are ready to adapt any which way the conditions dictate.*

Special track

SLS&R: Automatic Sign Language Synthesis and Recognition

Chair

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along with

VISUAL 2021: The Sixth International Conference on Applications and Systems of Visual Paradigms
https://www.iaria.org/conferences2021/VISUAL21.html
July 18, 2021 to July 22, 2021 - Nice, France

An estimated population of 70 million deaf people uses sign language to communicate around the world. Many deaf adults and teenagers have low literacy levels of their country's written language due to a lack of exposure to the spoken version. Consequently, they have difficulties reading text, including books, transcriptions, subtitles, and captions. As a minority language group, the deaf population also faces significant obstacles to communicate with the hearing community that, in general, do not know sign language. Sign language synthesis and sign language recognition are technology-based approaches that can reduce the communication barrier between the deaf and the hearing communities.

Sign Language Synthesis (SLS) involves the implementation of signing avatars. A signing avatar is a computer-animated virtual human that can present content in sign language. Many developers currently adopt a stylized cartoon-like appearance for their avatars, while others pursue a more realistic approach. However, over and above the visual look, the avatar's smooth and lifelike movements and behavior are crucial to conveying sign language information properly. The fully automated generation of realist signing is still a challenge in sign language synthesis as current avatar animation pipelines still require intensive human intervention.

Sign language recognition (SLR) is a challenging task. Although glove-based and vestment-based approaches have been investigated, non-intrusive vision-based is currently dominant in SLR. Moreover, according to the target item's characteristics, SLR techniques can be categorized into fingerspelling, isolated sign, and continuous signing recognition approaches. Continuous recognition addresses a more realistic real-world scenario but is significantly more challenging than the other two approaches. Facial expressions and eye gaze are also crucial to convey meaning in sign language. SLR approaches often neglect such relevant features. Recent advances in machine learning, especially Deep Learning, have shown compelling results in signing recognition. However, the lack of extensive training data is still a limiting factor for the generalization of such a data-driven approach.

This Special Track focuses on recent developments in sign language synthesis and sign language recognition seeking to stimulate the cross-fertilization of ideas of these two research areas. Although with different goals, the areas share the common ground of modeling sign language production.

Topics include, but not limited to

- Animation of signing avatars
- Application of SLS and SLR systems
- Continous signing recognition
- Dataset annotation of SLR
- Evaluation of SLS and SLR systems
- Finger-speeling recognition
- Isolate sign recognition
- Recognition of non-manual features, including facial expressions
- Synthesis of non-manual features, including facial expressions
- Synthesis of realistic signing
- Synthetic data-augmentation for SLR

Contribution Types
- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.iaria.org]
- Presentations: slide only [slide-deck posted on www.iaria.org]
- Demos: two pages [posted on www.iaria.org]

Important Datelines
Inform the Chair or Coordinator: As soon as you decide to contribute
Submission: June 14, 2021
Notification: June 26, 2021
Registration: July 2, 2021
Camera ready: July 3, 2021
Note: *The submission deadline is somewhat flexible, providing arrangements are made ahead of time with the chair.*

Paper Format
- See: http://www.iaria.org/format.html
- Before submission, please check and comply with the editorial rules: http://www.iaria.org/editorialrules.html

Publications
- Extended versions of selected papers will be published in IARIA Journals: http://www.iariajournals.org
- Print proceedings will be available via Curran Associates, Inc.: http://www.proceedings.com/9769.html
- Articles will be archived in the free access ThinkMind Digital Library: http://www.thinkmind.org

Paper Submission
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Registration
- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at http://www.iaria.org/registration.html

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