Smart Posterboard System

Multi-modal Sensing & Analysis

- Video
- Motion
- Audio

- Pointing
  - Gaze (head)
  - Nodding
  - Backchannel
  - Laughter
  - Utterance

(mental state) attention comprehension interest courtesy
Why Poster Sessions?

• Norm in conferences & open-houses
• Mixture characteristics of lectures and meetings
  – One main speaker, with a small audience
  – Anyone of the audience can take an initiative

• Interactive
  – Real-time feedback by audience
  – including back-channels & nodding
• Multi-modal (truly)
  – Standing & moving
• Real, but controlled (knowledge/familiarity)

Smart Posterboard
Demonstration Overview

• Offline Diarization & Browser
  with 19-channel Microphone Array & 6 Cameras
  – Speech enhancement with BSSA (Blind Spatial Subtraction Array)
  – Speaker diarization based on adapted GMM
  – Speaker localization & Gaze (head direction) detection

• Online tracking using Kinect
  – Speaker localization & gaze (head direction) detection
  – Speech enhancement
Speech Separation & Enhancement: Blind Spatial Subtraction Array (BSSA)

Application Scenario

- Poster session archiving + browser
  - Interaction analysis
  - Visualization and mining
    - Review Q-A afterwards
    - Extract segments people find interesting or difficult to understand
- Automated presentation system
  - Switch slides according to interest and knowledge level
  - Answer questions
Staffs contributed to this Demo.

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References

   Detection of hot spots in poster conversations based on reactive tokens of audience.
   Analysis on prosodic features of Japanese reactive tokens in poster conversations.
   Multi-modal recording, analysis and indexing of poster sessions.