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Speech and Co-speech Gestures in Interactions

- Co-speech gestures linked to prosodic expressions
- Speakers use their entire bodies to communicate
- This is best investigated in spontaneous speech-based interactions

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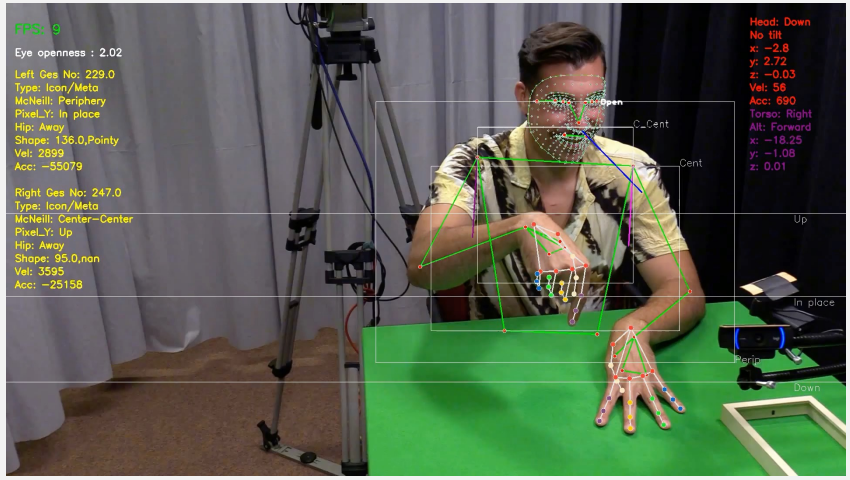
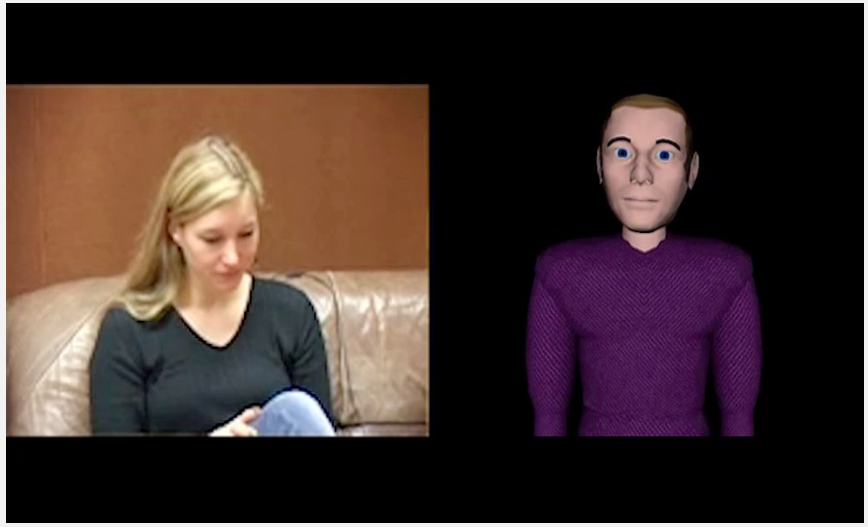
Feedback signals

- How do we signal attentive listening?
- How do we signal (non-)understanding
- Can we apply this knowledge to HMI?
- How language- or culture-specific are these insights?





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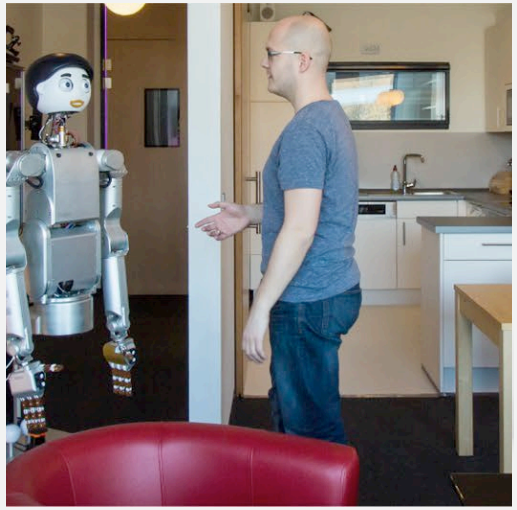
Speaking Styles and Situations

- How do speaking styles differ across different situations, und
- How do speaking styles differ when humans interact with machines?
- How human-like should machines be when interacting with humans. Should they be able to laugh, for instance?



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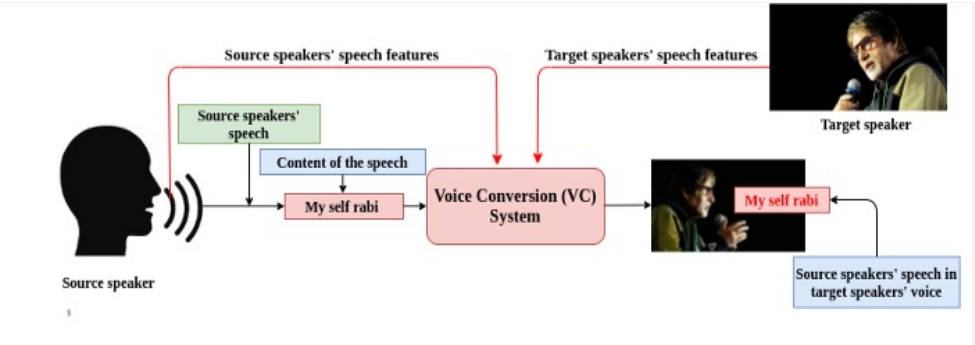
Voice quality, voice conversion, TTS quality

- Voices are diverse and express our personalities, but very difficult to measure or to describe or explain
- AI-based voice adaptation systems are able to capture individual voice patterns and superimpose them to a different utterance.

➔ We use such technologies to better understand voice profiles, and use phonetic techniques to evaluate synthesized voices.



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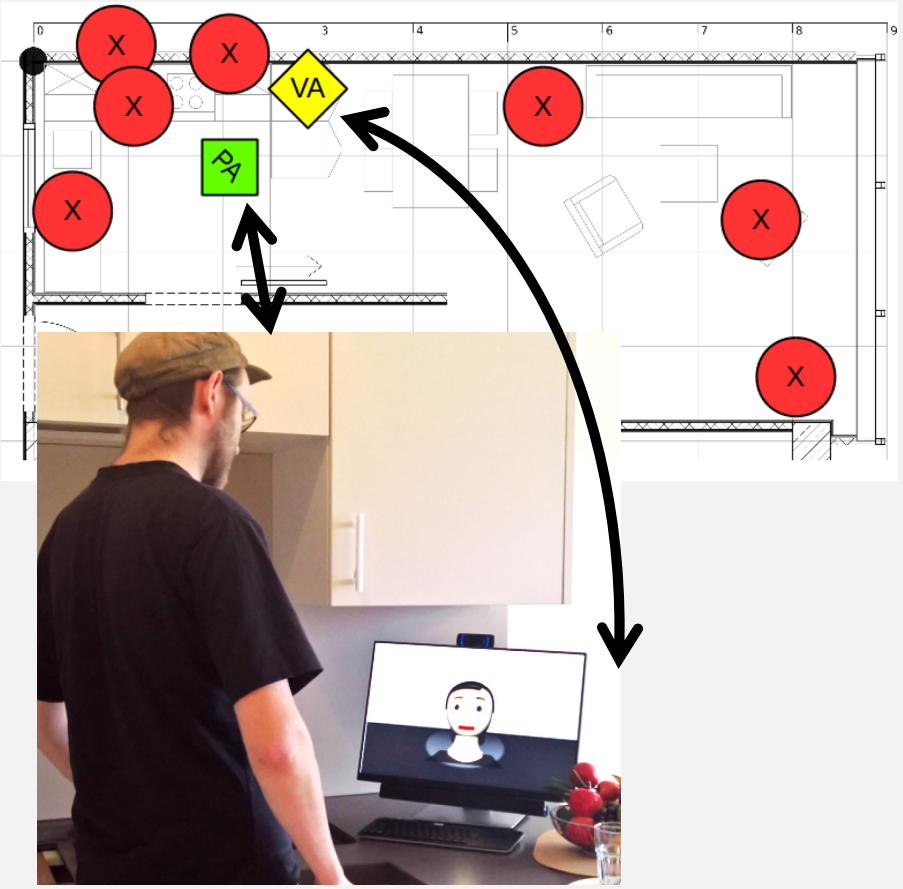
Non-verbal vocalizations: hesitations, laughter, breathing

- Hesitations, breathing and laughter structure interactions, are time-buying and signal cognitive load.
- Hesitations increase task performance in HMI, if they guide the listeners‘ attention.
- Laughing Artificial Agents are more likeable, but also perceived as less formal.
- Hesitations, breathing and laughter are perceived multimodally!



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