Welcome
2017 Faculty Summit Attendees

Faculty Summit 2017
microsoftfacultysummit.com

Microsoft Research
Microsoft.com/research

Facebook
@microsoftresearch

Twitter
@MSFTResearch
#FacSumm
#EdgeofAI
Social and Emotional Intelligence in AI and Agents

Daniel McDuff
Applications
Personal Assistance
Education
Transportation
Gaming
Health and Care
Marketing
Governance
Applications
Personal Assistance
Education
Transportation
Gaming
Health and Care
Marketing
Governance
For an assistant to truly become valuable to the user, it must be natural to interact with and engaging.


• GM Lucas, J Gratch, A King, and LP Morency. 2014. It’s only a computer: virtual humans increase willingness to disclose. Computers in Human Behavior, 37, pp. 94-100.
For an assistant to truly become valuable to the user, it must be natural to interact with and engaging.

- GM Lucas, J Gratch, A King, and LP Morency. 2014. It’s only a computer: virtual humans increase willingness to disclose. Computers in Human Behavior, 37, pp. 94-100.
Sensing

- Camera
  - Facial expressions
  - Scene Understanding

- Camera
  - Physiological measurement (PPG)

- Microphone
  - Speech-to-Text and Sentiment
  - Voice prosody

- Cellphone
  - Personal Agent
  - Activities + Experience Sampling
Example

Webcam and Microphone → PSI

- Physiology (HR, HRV, Respiration)
- Facial Actions and Expressions
- Speech Sentiment
- Voice Tone/Prosody
- Scene Understanding + Object Detection
Multimodal
Combining modalities consistently improves recognition performance and can help generalize affect recognition.

Longitudinal
Emotions are short-lived and moods are longer, detecting an emotion without knowledge of a person's typical behavior is hard.

Personalized
Interpersonal variability is large, often larger than cultural or other demographic variability.
Learning Across Datasets

Large-scale Meta Data

- Anonymized/Aggregated
- Dataset A
- Dataset B
- Dataset C