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## **Face Analysis for Emotionally Intelligent Systems**

Emotions are central for human intelligence, and should have a similar role in artificial intelligence. There is a growing need to develop emotionally intelligent systems, which are able to read the emotions of people and adapt their operations accordingly. Among the areas of application are emotional chat pots and personal assistants, human-robot interaction, emotion-aware games, health and medicine, on-line learning, safe car driving, security, and user / customer experience analysis. Facial image analysis will play a key role in developing emotionally intelligent systems. In this talk, first an introduction to emotions, face information and applications of emotion analysis is presented. Then, our research on facial image analysis is introduced, including methods for image and video description, facial expression recognition, micro-expression analysis, and heart-rate measurement from face videos. Some potential applications are outlined. Multimodal data would be needed for many applications, including facial expressions, head, body and eye movements, speech, and physiological signals. Some results of our research on multimodal emotion analysis are presented. Finally, future challenges are outlined and a summary is presented.