(15.15) Fernando Corte Vargas

Title: Designing Emotionally Expressive Behaviors for an Appearance- Constrained Robot

Abstract:
How can robots without expressive faces or bodies convey emotions? Why would it be useful if robots could express emotion? In the context of human-robot interaction, could emotional expression lead to a greater comprehension of robotic behaviors and intents? These are questions addressed by the field of affective robotics, which seeks to develop and establish naturalistic social interaction between robots and humans. Emotions can provide a natural communication modality to augment the multi-modal capabilities of social robots in a variety of domains. Historically, the emphasis in the field has been on facial and bodily expressions, relying heavily on anthropomorphic or zoomorphic robot appearances. This presents a challenge, as most robots are designed with functionality in mind, often lacking expressive faces and bodies, which limits their ability to effectively convey emotions. This study focuses on reviewing the existing literature on the design of emotionally expressive behaviors for appearance-constrained robots. The underlying analysis reveals that this type of robots can effectively convey emotions through abstract affective expressions. Concretely, specific features of modalities such as motion, light, and sound possess unique affective qualities, which, when integrated in multimodal configurations, lead to affect attribution. By filtering the affective characteristics of each feature using a bottom-up approach, the design process for emotionally expressive behaviors used in appearance-constrained robots can be improved.

Supervisors: Jens Kober, Joost Broekens, Bernhard Hilpert

Feedback Section:

Presentation **15:30 min:** Start 15:17, Questions 15:32, Summary, End 15:45

Q&A:

- Can you describe the bottom up study you perform (regression)?
- What robots? Real or simulated? Media?
- Why put emotions in robots? Especially if they are not designed for it
- Do you want to verify existing literature (red means angry) or find something new?
- What about (cultural) biases that are encoded in your robot's way of expressing simulation?
- Will you ask "does the robot look angry" or as an open question?
- Will you be looking at the Nationality of the participants?

Feedback on presentation:

Very nice media, humans can relate to it. Good overview of the thesis, nice motivating question (why express emotions). Spot on timing, very calm, pleasant to listen to, engaging presentation.

- Like that he developed a taxonomy.
- Clear summary of the findings.
- Equal amount of time per slide, not too much text

- Too much focus on literature selection, although nicely structured
- Interesting to see the method, maybe too detailed
- Confusing what "appearance constrained" means