Neural network models for emotional and social robot interaction

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In the Knowledge Technology group (https://www.informatik.uni-hamburg.de/wtm/) we develop neural network models with a particular focus on robot interaction and development. One of our goals is to better understand grounded communication in humans and machines. Another goal is to use the knowledge we gain to improve multisensory integration and social interaction in humanoid robots. In the context of understanding grounded communication, we will present a deep neural network model for emotion expression recognition for human-robot interaction. Furthermore, we will present a model using self-organizing neural networks for human-action recognition in the context of human-robot assistance. In conclusion, we show how emotion perception and multisensory observation of human actions can contribute to future human-robot cooperation.