Title. Psychology, Statistical Models and Intelligent Interaction

Abstract. Speech is the dominant modality in human-human communication. It is supported in subtle ways through other communicative cues (e.g., gestures, eye-gaze, and haptics). These cues, although subtle, play a major role in enriching human-human interaction by communicating complementary information. In this talk, I will present case studies that demonstrate the wide range of information that can be extracted from subtle cues, and show how psychology-inspired statistical models can be used to build intelligent human-computer interfaces. The examples will come from robot-assisted joint manipulation tasks (e.g., carrying a table with the help of a robot), conversational robotic agents, and multimodal interaction using eye-gaze tracking, and pen input.