Human Robot Interaction: "Better Interaction"

Advanced robots will increasingly interact with people. Physical and cognitive interactions are are at the core of many new areas of robot application. Robots will become tools used by people. Interaction will shift from computer like interfaces to being direct and physical. Robots collaborating and co-working with people both at home and in the workplace will become the norm. These technologies are fundamental to this step change. This increased physical interaction demands higher levels of safety and dependability. These technologies will provide the basis for building safe usable interactive machines.

Human Machine Interface

Robots will increasingly interact with people. This interaction will be essential to the acceptance and integration of robots into our everyday lives. It might be through buttons and a screen, or through physical interaction and gestures. Interaction will move from computer like interfaces to ones based on intuitive interpretation of a user's intentions.

State of the Art

Touch screen interaction is commonplace, and limited gesture recognition is now available in commercial products. Emotion recognition based on enhanced face recognition is available in the research laboratory, gaze tracking and speech recognition in quiet environments are now commonplace.

2020 Target

To develop instruct-able interfaces. To develop physically interactive interfaces for collaborative working. To develop interfaces that can assess the emotional and cognitive state of the user and respond appropriately. To develop standardised interfaces for autonomous appliances.