Internship proposal: Automated characterization of trust in Human-Robot Interaction

Where
Telecom ParisTech, 46 rue Barrault, 75013 Paris

Duration
6 months, starting from mid-February 2018

Background
Trust is a fundamental component of interpersonal rapport, in particular of collaborative interactions among humans. It is defined as the psychological construct expressing the belief that someone or something is reliable, good, honest and effective, and it was recognized as the emotional basis of collaboration. Therefore, it is natural to foresee that such a kind of construct is crucial in order to build machines effectively able to accomplish collaborative tasks with humans. In particular, the level of trust toward an agent determines whether someone will rely on it for help and will follow its indications, making it particularly relevant in contexts where the robot or virtual agent should be listened to, as in the role of teachers, nurses or assistants.
Our purpose is investigating and automatically measuring the characterization of trust during a human-robot interaction. The focus will be done on the human partner (i.e. on her nonverbal and verbal socio-affective signals). The robotics platform will be adopted is the humanoid iCub, a child-like shaped robot able to move, perform facial expressions and speak.

The work will be performed in tight collaboration with the Italian Institute of Technology in Genoa, Italy. A possible short-stay of the candidate at this Institute might be arranged during the stage.

Intended tasks
Participation in the design of Human - Robot Interaction experiments on trust
Development of algorithms for multimodal features detection
Analysis of the collected data by using statistical and machine learning techniques

Required skills
Good programming skills (at least one among: Python, C++, MATLAB)
Machine learning
Statistics
English (written and oral)

Contacts
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