PhD Studentship in Human-Computer Interaction on "Touch Simulation for Conveying Emotions".

Applications are invited for a funded PhD studentship at Télécom ParisTech / Université Paris-Saclay (Paris, France).

PhD Project:

The goal of this PhD project is to build and evaluate wearable devices that simulate touch. More precisely, it aims to investigate how the sense of touch can be integrated in interactive systems to leverage communicative and emotional channels between humans and machines or between humans via machines.

The sense of touch has been shown to increase trust, worthiness, warmth, politeness and the sense of social presence, to trigger emotional attachment and to communicate physical connection. However, the touch modality has been much less studied than other communication channels and little research has been devoted to technologies that are specifically aimed at transmitting emotions. In contrast, this project will focus on technologies that have been seldom explored but seem well suited for conveying feelings and emotions, such as fluid or air jet stimulation, moving tactile displays with various materials (e.g. artificial fur), temperature or specific kinematics patterns. Practically, this project will focus on wearable devices such as tactile sleeves or actuated clothes. It will require to implement touch-simulation devices and to perform user experiments to evaluate the prototypes and to understand which emotions are conveyed by different ways of touching the body.

This PhD project will be part of a multidisciplinary project. This project, which is at the crossroad of Human-Machine Interaction and Emotional Design, will involve several partners with complementary expertise (in social science and affective computing, emotional pattern recognition, virtual agents and virtual reality). It will investigate how touch can serve to enhance human interaction for interpersonal mediated communication and with embodied conversational agents (ECAs).

About the role:

The post is available from December 2017. Applicants are expected to have experience in building/evaluating devices and in conducting user studies. Applications will be considered on a competitive basis with regard to the candidate's qualifications, skills experience and interests.

Enquiries should be addressed to: Prof Eric Lecolinet (eric.lecolinet@telecom-paristech.fr).

Details about our research group and the Doctoral program of Télécom ParisTech - Université Paris-Saclay can be found at:
- https://via.telecom-paristech.fr/
- https://www.telecom-paristech.fr/eng/international-studies/phd/making-a-phd.html