PhD Research Fellow in Cognitive Robotics and Interactive Systems

A position as PhD Research fellow is available at the Cognitive Robotics, Intelligent Systems & Speech Processing (CRISSP) group at GIPSA-Lab, University of Grenoble-Alpes, France (one of the top 5 French universities, 61,000 students, 5,500 researchers and 3,700 PhD students wherein 45% from abroad). The PhD grant is part of the French Research Agency (ANR) funded SOMBRERO project (see http://www.gipsa-lab.fr/projet/SOMBRERO/). The project aims at demonstrating and learning social behaviors to humanoid robots via fully immersive teleoperation.

The CRISSP team hosts Nina (see http://www.gipsa-lab.fr/projet/NINA/), the first iCub with an articulated talking face [1], [2]. The research in the PhD position would include 1) developing a fully immersive teleoperation platform for Nina’s upper body, 2) using this platform to collect multimodal sensorimotor behavior during situated & finalized robot-mediated human-to-human interactions, 3) learning models of interactive behaviors from this collection of sensorimotor signals and 4) assess the performance of such models for driving autonomous interactions. This thesis builds on several previous Masters and PhD thesis: a first immersive teleoperation platform for the control of head, gaze and mouth of the robot has already operational [3] and trainable interactive models have already been proposed by Mihoub et al [4]–[6] and evaluated with human-human interactive data. The thesis work aims at extending this research to full body teleoperation (incl. torso, arms and hands) and to autonomous human-robot interaction.

Qualifications: Applicants must hold a Master’s degree or equivalent in computer science including robotics and machine learning/artificial intelligence. Thus, applicants should have a strong background in programming and machine-learning. In particular, experience with sequential models (HMM, DBN, etc) would be beneficial. Moreover, knowledge in the fields of robotics, simulation, movement planning and control would be an advantage. The candidate should have experience with experimental work as the project involve the monitoring and statistical analysis of human-robot interactions.

Pay grade: €21,000 – €25,100 (depending on teaching duties)

Closing date for applications: 11th May, 2015

Contact for more information: Dr. Gérard Bailly; E-mail: gerard.bailly@gipsa-lab.fr; Web: www.gipsa-lab.fr/~gerard.bailly

Refs:


