The Domus-LIG Experimental Living-Lab methodology and the EmOz platform: overview of spontaneous and ecological corpora - from Small Smart Data to Big Data

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The availability of real-life data through the IoT and ICT technologies, completed by the augmenting computers' calculability have developed the paradigm of Big Data, to process an enormous amount of information to automate various system as speech technologies and robotics. The motivation resided on the "intelligence" of data to handle the naturalness and variability of the human behaviors. The actual machine learning techniques, as DNN, let the computer mathematics to approximate and to generalize the cognitive processes more than modelizing them. The quantity of data aim is then to cover the knowledge, which is poorly explicit. They maybe rely on too many implicit mechanisms locked up into black boxes. The Domus-LIG Experimental Living-Lab methodology and the EmOz platform, a wizard of oz tools interfaced with a robot, both developed to induce, observe and collect spontaneous and ecological interactional data of human-robot communication, particularly with socio-affective values. The robot is thus a measuring instrument of the human multimodal speech features' effects, strongly hypothesized. This methodology works on agile loops of processing to control the data contents and format them in short and rapid processes. This evolving corpus is the basis for an iterative machine learning, dedicated to automatic recognition systems. Different studies leading to the EEE (EmOz Elderly Expressions) or the GEE (Gesture EmOz Expressions) corpora this approach. This bootstrap is an invitation to discuss the possible mechanisms to move from Small Smart Data to relevant Big Data.

Biography

Yuko SASA is a young researcher in the field of social robotics, finishing a PhD the LIG - computer science lab and financed by the Labex Persyval-lab. She completed a computational linguistics Master in 2012, and a Gerontechnology Master in 2013, at Grenoble Alps University. Her supervisors are V. Aubergé (LIG), G. Feng (Gipsa-Lab) and Y. Sagisaka (Waseda University). She is enrolled in several academic committees and was selected for international research programs as the French-American Doctoral Exchange Seminar on Cyber-Physical Systems (FadEx - French Embassy), or the ROW (Research Opportunities Week - Technical University of Munich).

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