Thomas Janssoone

PhD student

Employment history

October 2014 - January 2018

PhD. Student, *University Pierre et Marie Curie . ISIR . Interaction team*, Telecom Paristech . TSI . Greta team, Paris.

Description: Since October 2014, I am a PhD. Student at ISIR, UPMC and Telecom Paristech. My work deals with multimodal analysis and recognition of social signals for the expression of affective states. The ongoing goal is to improve the synthesis of virtual agents to make them express attitudes or interpersonal stances.
I designed frameworks able to find temporal patterns in visual features (facial expression and head movements) and audio features (turn taking and prosodic) characterizing social stances, such as dominance or friendliness. I adapted a sequence-mining algorithm to study the various timing and sequencing of the features coming from the different modalities. It then proposes insights to animate an embodied conversational agent. The model for the production of social stances in the agent was in accordance with the literature in humanities studies and validated through perceptive experimentations.(Janssoone, 2015; Janssoone et al., 2016a,b, 2017).
Through my participation to summer school as ISSAS, internship and research meetings, my PhD gave me the opportunity to use and design artificial intelligence algorithms applied to the field of social signal processing, psychology and affective computing.
Skills: C++, OpenCv, Sequence Mining, Qt, Cmake, Matlab, Intraface, TITARL, praat, prosogram.

July 2017 - September 2017

Research scholar as PhD. student, *University of South California, Institute of Creative Technologies*, Los Angeles.

Description: I worked with Pr. Stefan Scherer during a summer internship as part of my PhD studies. Our ongoing work is to propose new models of emotionally coloured dyadic interactions. Based on domain separation networks, we investigate deep leaning based models to describe the dynamic of an interaction. It separates what is specific to some affective phenomena and what is common to them. It is also able to consider dyadic information to improve its performance. We plan to publish this work this fall applied to the problematic of interpersonal stance.
Skills: Python, Keras, Tensorflow, Numpy, Pandas, Linux.

February 2013 - July 2014

Research and Development Engineer, *Laboratory of Informatics of Grenoble . Human-Computer Interaction group*, Grenoble.

Description: I supported a Ph.D student in his researches on interactions with ambient intelligence. As part of a FUI project, it involved meeting with industrial and research partners. I handled the design and implementation of new ways to interact with lights in several contexts (restaurant, hotel room,...).The main goal was the evaluation of an application that dynamically guide 3D gestures to teach the user how to control the lights. Several guidance displays were used (screen, augmented reality on the user hand or the user reflect in a mirror,...). The tracking was done with the Kinect technology. Real time realistic visualization were implemented with the 3D engine Ogre3D.(Delamare et al., 2016)
Skills: C++, Kinect SDK, OpenNi 2, Nite2, Ogre3D, GRT gesture recognition toolkit, Cmake, Imovie.

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April 2012 - July 2012 **Research and Development Engineer**, *Blue Eye Video company*, Grenoble.
Description: I set up computer vision applications doing background subtraction, skin detection and body detection and also handled the design of the graphical user interface of an internal configuration tool in order to make it more user friendly.
Skills: OpenCv, C, Java, Swing, MongoBd, Xml.

July 2011 - April 2012 **Research and Development Engineer**, *TIMC Laboratory . CAMI Team*, Surgiqual Institute Company, Grenoble.
Description: I designed a demonstrator of SurgiQual Institute's products and development of component of computer assisted surgery and medical navigation solutions for the hospital of Grenoble.
Skills: C++, Open Gl, Itk, Dicom, Voluson.

July 2011 - April 2012 **Hospital Engineer**, *TIMC Laboratory . CAMI Team*, Imactis Company, Grenoble.
Description: I set up a prototype for navigation with CT-Scan images with strong expectations. I handled specifications design, risk analysis and software development, especially evaluation of the impact of breathing on internal organs movements.
Skills: C++, VTK, Itk, Dicom.

Technical Skill

Programming C/C++, Java, Ada, Tcl/tk, SQL/Oracle, MATLAB, R, numpy, scikit-learn, pandas, Tensorflow, Keras

Library ITK, VTK, Qt, Open Gl, stl

Languages *English:* fluent, *French:* native, *German:* basic knowledge

Educational qualifications

September 2006 - July 2010 **Ensimag diploma**, French Superior National School of Applied Mathematics and Computer Science, Grenoble, Three years of studies leading to a master degree with a specialization *Image and Virtual Reality*. *Exchange Student* at Technische Universiteit Eindhoven between September 2009 and January 2010 for a specialization in Expert Systems and Medical Image Processing.
Final internship at CAMI team : Realization of a biopsies simulator at the GMCAO lab. Design of an efficient User-Interface for the application and set up of a learning environment of ultra sounded guided prostatic biopsies with evaluations and recommendations. MMVR 2011 Janssoone et al. (2011).

Referees

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Publications

Delamare, W., Janssoone, T., Coutrix, C., and Nigay, L. (2016). Designing 3d gesture guidance: Visual feedback and feedforward design options. In *Proceedings of the International Working Conference on Advanced Visual Interfaces*.

Janssoone, T. (2015). Temporal association rules for modelling multimodal social signals. In *Proceedings of the 2015 ACM on International Conference on Multimodal Interaction*.

Janssoone, T., Chevreau, G., Vadcard, L., Mozer, P., and Troccaz, J. (2011). Biopsym: a learning environment for trans-rectal ultrasound guided prostate biopsies. In *MMVR*.

Janssoone, T., Clavel, C., Bailly, K., and Richard, G. (2016a). Des signaux sociaux aux attitudes : de l´utilisation des règles d´association temporelle. In *WACAI 2016, Workshop . Affect . Compagnon Artificiel . Interaction*.

Janssoone, T., Clavel, C., Bailly, K., and Richard, G. (2016b). Using temporal association rules for the synthesis of embodied conversational agents with a specific stance. In *International Conference on Intelligent Virtual Agents*.

Janssoone, T., Clavel, C., Bailly, K., and Richard, G. (2017). Smart : Régles d′associations temporelles de signaux sociaux pour la synthése d′un agent conversationnel animé avec une attitude spécifique. *Revue d'Intelligence Artificielle*.