Ph.D. in Information Technology
Thesis Defense

April 14h, 2022
at 9:00
Room Alpha and online by Webex

Fabio CATANIA – XXXIV Cycle

Designing and Engineering Emotion-aware Conversational Agents to Support Persons with Neuro-Developmental Disorders

Supervisor: Prof. **Franca Garzotto**

Abstract:

Emotion-aware conversational agents are software that can recognize users' emotions while providing them access to information and services through written or spoken natural language. Such agents have been scarcely employed to support the therapy for people with Neuro-Developmental Disorder (NDD), despite regular conversational agents have been recently identified as a potentially beneficial means to support the interventions of this population.

The thesis explores the potential of emotion-aware conversational agents to promote the ability to express emotions using the voice in people with NDD. We addressed some open challenges in conversational technology and speech emotion recognition by answering the following research questions: (i) Can conversational agents with speech emotion recognition skills help people with NDD improve their emotion expression skills? (ii) Does emotional speech bias speech recognition? (iii) What can be done to push forward the state of the art in speech emotion recognition in a language with limited linguistic resources such as Italian?

Overall, the findings of this Ph.D. research inform interaction designers and developers about some critical aspects to consider during the design process of emotion-aware conversational agents, both for persons with NDD and the neuro-typical population.

Also, this work might pave the way for future research improving the understanding of the cognitive, social, and emotional mechanisms associated with NDD and new forms of therapeutic interventions for these subjects.

PhD Committee

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