

**Ph.D. in Information Technology  
Thesis Defense**

**January 22<sup>nd</sup>, 2026  
at 11:00 am  
Beltrami Room – building 5**

**Ludovica Piro** – XXXVIII Cycle

**CONVERSATIONAL USER INTERFACES FOR AN INCLUSIVE WEB: DESIGN PRINCIPLES,  
METHODS, AND TOOLS**

Supervisor: Prof. Maristella Matera

**Abstract:**

This research investigates how conversational interaction should be designed to enhance web accessibility for blind and visually impaired (BVI) users. Currently, despite accessibility standards, the web remains often not accessible for BVI users. Furthermore, especially in complex tasks such as form filling, even when technical accessibility is met, the literature documents multiple usability challenges faced by BVI users on the web. These challenges include making sense of what is available on the page, understanding what is possible to do, or re-finding information. Conversational AI could offer an alternative paradigm to access the web. However, conversational web browsing remains an understudied task in the field of conversational interaction and current guidelines have yet to be tested on it. This work contributes to advancement of the state of the art in conversational interaction by proposing a design framework and a set of guidelines for inclusive conversational interaction with web content, grounded in established accessibility principles, informed by the perspectives of blind and visually impaired (BVI) users, and tested with practitioners (i.e. designers and developers) to assess their usability in a practical setting.

**PhD Committee**

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