Centro Internazionale di Studi Umanistici "Umberto Eco"

Ciclo di seminari "Scienze umane, *Computer Science* **e** *Digital Media***"**

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Talking to Machines: From Musa to the Google Assistant

Abstract: The technologies that enable a machine to recognize the words of an utterance, understand its meaning, decide how to act on that, perform an action and generate a spoken message back to a user were very limited thirty years ago. Despite of those limitations, with the help of good design practices, effective tools, smart usage of data and machine learning, we relentlessly made strides in advancing the performance and bringing measurable value to users. The dream of a human-like automated agent has not been fully realized yet, and many problems remain to be solved, but we are at a time in history when technologies can enable a machine like the Google Assistant to be light years ahead in performance and sophistication as compared with analogous efforts of the past. This talk is about the story of that journey, the problems encountered and the solutions that helped shape today's technological landscape in this area. The story goes from the early attempts, to the rise of the speech industry, to the visionary work to give life to Jibo, the first social robot, to finally land on today's advanced systems like the Google Assistant. We definitely are at turning point: the integration of sophisticated machine learning with incredibly large amounts of data and hundreds of systems and services is bringing the sophistication of virtual assistants to a level unseen before. This talk will give an idea of the current status and the future of the machines who talk.

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