ELOQUENCE: Multilingual and Cross-cultural interactions for context-aware, and bias-controlled dialogue systems for

Description

ELOQUENCE is focused on the research and development of innovative technologies for collaborative voice/chat bots.

Voice assistant-powered dialogue engines have previously been deployed in a number of commercial and governmental technological pipelines, with a diverse level of complexity. In our concept, such a complexity can be understood as a problem of analysing unstructured dialogues. ELOQUENCE's key objective is to better comprehend those unstructured dialogues and translate them into explainable, safe, knowledge-grounded, trustworthy and bias-controlled language models.

We envision to develop a technology capable of learning by its own, by adapting from a very data-limited corpora to efficiently support most of the EU languages; from a sustainable computational framework to efficient and green-power architectures and, in essence, that may serve as a guidance for all European citizens whilst being respectful and showing the best of our European values, specifically supporting safety-critical applications by involving humans-in-the-loop.

Overall, ELOQUENCE's project considers building on top and to improve of prior achievements in the domain of conversational agents, e.g. recently launched and public-domain Large Language Models (LLMs), such as chatGPT (e.g., more recent versions) or LaMDA, most of them developed in non-EU countries. While including key industrial enterprises from Europe (i.e., Omilia, Telefonica,Synelixis), ELOQUENCE will validate the developed technology through (i) safety-critical scenarios with human-in-the-loop qie for security-critical applications (i.e., emergency services in call centres) and (ii) smart home assistants via information retrieval and fact checking against an online knowledge base for lesser risky autonomous systems (i.e., home-assistants).

ELOQUENCE will target the R&D of these novel conversational AI technologies in multilingual and multimodal environments and demonstrated in several pilots.

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