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ELOQUENCE

Multilingual and Cross-cultural interactions for context-aware, and bias-controlled dialogue systems for safety-critical applications

Haris Mouratidis

Institute for Analytics and Data Science (IADS), University of Essex



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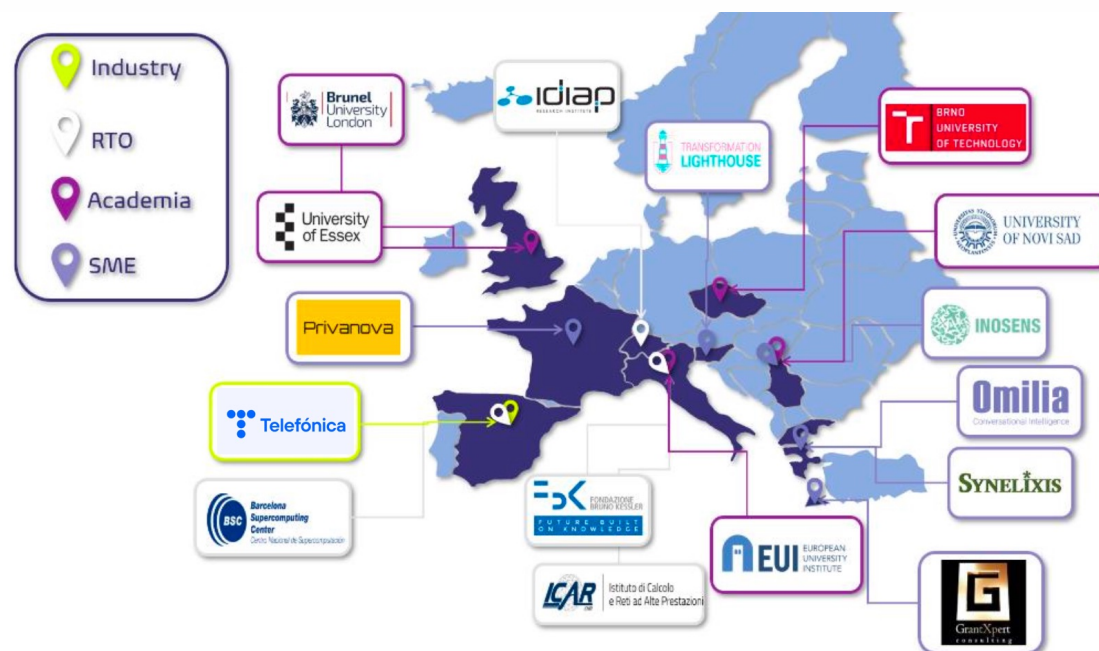
Federal Department of Economic Affairs,
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ELOQUENCE: The Consortium

- 16 Partners from 11 countries
 - 1 Industry companies (TID)
 - 6 SMEs (PN, INO, TL, GX, OM & SYN)
 - 5 Academia (BUL, UESSEX, UNS, EUI & BUT)
 - 4 Research and Technology Organisation (IDIAP, CNR, BSC, FBK)
- Duration: 36 months
- Type of Action: HORIZON Research and Innovation Actions
- Call ID & Topic:
 - HORIZON-CL4-2023-HUMAN-01-CNECT
 - HORIZON-CL4-2023-HUMAN-01-03



Motivation

The need for general purpose collaborative Voice Assistants

*“Applicability of AI-powered LLMs and Voice Assistants differs for each end-user, **customer preferences or business logics cannot be unified**, moreover can change rapidly over the time, **needing data** from every domain and **becoming non-scalable to efficiently tackle other domains and languages.**”*



Existing Voice Assistants solutions are limited...

*“They are limited to few interactions or simple queries. Although more recent systems are capable of answering and follow-up questions, so **pretending human-like reasoning and common sense**, but are far from reproducing human intelligence, trustworthy and empathy”*

ELOQUENCE: Aims and Ambition

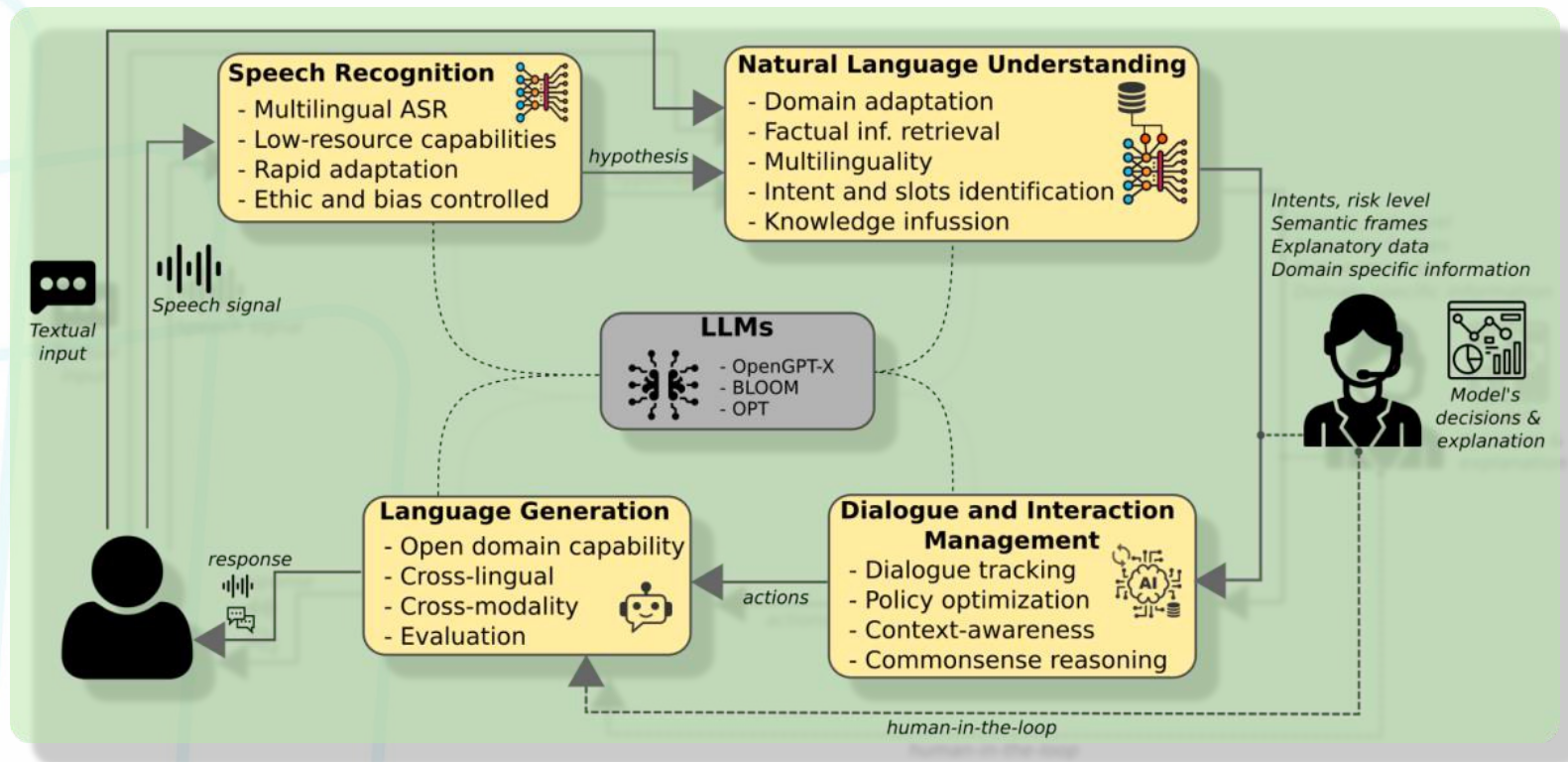
Develop technology that understand humans, adapt to human environments, and behave appropriately in social situations, and apply it to the safety-critical scenarios.

*This goal will be achieved **by following data sharing and privacy-preserving techniques, and personal data processing ethics.** By ensuring mechanisms for trustworthy through efficiently leveraging human-grounded evaluations.*

*“A big ambition of ELOQUENCE is to focus on new approaches allowing **to exploit open-sourced data sources and pre-trained speech models and LLMs** to be efficient and subsequently scaled to target domain, taking into consideration model recycling and green computing.”*

This is aligned with the recent developments in AI powered technologies, responding to challenges of ethical and cultural values concerning the impact of AI on society. ”

Overall concept



ELOQUENCE: Pilots

HOME

Privacy-preserving language model learning through decentralised training in smart homes

SOCIAL

Social context-aware language model detecting biases

CC

Retrieval-augmented LLMs as virtual agents, capable of understanding the user's goals, making API calls and respond with empathy

CC

Upgrading support call centres through AI-based supervision of multimodal dialogues

smart home and social scenario

safety-critical contact centre

ELOQUENCE and DATAMITE

ELOQUENCE does not aim to invest heavy effort into data collection, but we will create several mockup databases designed around pilots for both call centre and smart home scenarios.

In that context, ELOQUENCE will introduce a concept of a heterogeneous data environment, the ELOQUENCE “Interactive Playground”.

This effort is aligned with the Language Data Space (LDS) initiative, which focuses on language related resources.

There are multiple challenges in processing and handling data assets:

- Data availability and quality, data security and privacy, trustworthiness of data, data governance and sovereignty, Compliance with the FAIR principles, findable, accessible, interoperable, and re-usable

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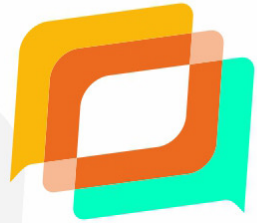
Thanks for your attention!!

For more information:

h.mouratidis@essex.ac.uk

<https://eloquenceai.eu>



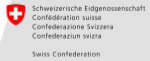


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