CONVERSATIONAL SENTIMENT ANALYSIS FOR AN IN-CAR VOICE ASSISTANT

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NET SALARY: ACCORDING TO EXPERIENCE

Duration: 24 months

Location: Computer Science Research Institute of Toulouse (IRIT), Toulouse, France, https://www.irit.fr/en/

DESCRIPTION

This PostDoc position is proposed in the framework of the Audio Mobility 2030 (AM2030) project, which started in April 2023. AM2030 aims at enabling car manufacturers to have their own in-car audio application, regardless of the operating system. They will be able to deploy a global audio experience and offer the best content and proactive services to drivers. It is positioned as a true road companion that will help consumers adopt eco-responsible behaviors: vehicle self-diagnosis and maintenance reports, advice on driving and the use of on-board equipment.

Project partners: ETX Studio (Lead), Continental Automotive FRANCE SAS, **ANITI**, École Polytechnique de Paris

ANITI's role in the project is related to working on human-computer interactions, in particular on natural language understanding. The role of the hired PostDoc researcher will be to develop a Conversational Sentiment Analysis system that will be able to detect the polarity and emotion of speakers based on an ongoing interaction. Two main tasks are planned:

1. Analysis of the discursive structure of the conversation to identify speaker's needs/goals/preferences.
2. Exploit this structure as well as past conversations to build the subjective profile of the speaker via the detection of the conveyed sentiments (positive vs. negative) as well as the emotional states of the speaker. Potential malevolent dialogues (e.g. aggressivity) will also be detected.
3. Inject this subjective profile to the recommender system to increase its performances.

The hired PostDoc will be based at the Computer Science Research Institute of Toulouse (IRIT, https://www.irit.fr/en/), located in the campus of the Toulouse III Paul Sabatier University. They will be integrated in the Melodi team, composed of about 30 permanent staff, PhD students and PostDocs whose research is related to various aspects of AI applied to text and dialogue processing (https://www.irit.fr/departement/intelligence-artificielle/equipe-melodi/).

References

Patricia Chiril, Endang Wahyu Pamungkas, Farah Benamara, Véronique Moriceau, Viviana Patti: Emotionally Informed Hate Speech Detection: A Multi-target Perspective. Cogn. Comput. 14(1): 322-352 (2022)

Farah Benamara, Maite Taboada, Yvette Yannick Mathieu. Evaluative Language Beyond Bags of Words: Linguistic Insights and Computational Applications. Comput. Linguistics 43(1): 201-264 (2017)

Farah Benamara, Nicholas Asher, Yvette Yannick Mathieu, Vladimir Popescu, Baptiste Chardon: Evaluation in Discourse: a Corpus-Based Study. Dialogue Discourse 7(1): 1-49 (2016)

REQUIRED SKILLS

Applicants should have a PhD in machine learning, ideally in speech/natural language processing. Good programming and English communication skills are also required.

APPLICATION PROCEDURE

Formal applications should include detailed cv, a motivation letter and reference letters. Samples of published research by the candidate will be a plus.