

Doctoral position in project C11 (PL: Reiter)

Project C11 “Prominence in Large Language Models” of the Collaborative Research Centre 1252 “Prominence in Language” seeks to fill a doctoral position (part time, 65%, 25.89 hours/week) from April 01, 2025 until December 31, 2028. If the necessary prerequisites required by tariff regulations as well as the required personal qualifications are met, the salary will correspond to the pay grade 13 as specified in the States’ Tariff Agreement (TVL).

The Cologne-based Collaborative Research Centre 1252 “Prominence in Language” is a dynamic research environment with 20 projects in linguistics and related fields. Project C11 investigates prominence with the help of large language models (LLMs) such as GPT or Llama. Language models are to take on the role of test subjects in psycholinguistic experiments, which means that the project also pursues a methodological goal. Initially, the aim is to replicate the results of linguistic experiments conducted with humans as well as possible - whereby the project also has to work out how exactly this can be measured and what “as well as possible” means. To this end, we are working together with three projects from the CRC, namely B04, C04 and C07. The experimental simulations will then be gradually expanded so that larger contexts with more decisions and variants can be investigated. Finally, the project will also investigate whether language models can not only simulate a -- relatively undefined -- entirety of speakers, but can also be used to simulate individual test subjects.

Your tasks

- Establish a simulation environment for several models
- Develop the formal framework to compare human and LLM responses
- Establish parameters and experimental setup to replicate human experiments
- Conduct experiments using larger discourses, increased number of discourse referents etc.
- Present your results at international conferences and in academic journals

Your profile

- You are familiar with large language models and how to use them
- You have experience with the programming language python
- You are highly proficient in German and English, Spanish is a plus
- You are capable of working in a team and working at the interface to related projects
- You are capable of quickly adapting to new research topics
- You have a university degree in (computational) linguistics, information processing, or similar

Formal requirements

- University degree (Master) in linguistics or related fields

The University of Cologne promotes equal opportunities and diversity. Women will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from all suitable candidates regardless of their gender, nationality, ethnic and social origin, religion, disability, age, sexual orientation and identity.

Please specify the position(s)/project(s) you are applying for and submit a cover letter describing your qualifications and motivation for applying for this position, CV and copies of the relevant university degree(s) including transcripts as well as your Master’s thesis. In case your Master’s thesis has not yet been completed, please provide two to three preliminary chapters of the Master’s thesis if possible, as well as two representative samples of your writing, e.g. term papers.

Please apply online with proof of the required qualifications without photo under: <https://jobportal.uni-koeln.de>. The reference number is **Wiss2412-04**.

The application deadline is January 17, 2025.

For further inquiries, please contact Dr. Christine Röhr (applicationsfb1252@uni-koeln.de).