

Advertisement of a Vacancy at Saarland University

At the Faculty of Humanities / Dept. Language Science and Technology, Chair Computer Science and Computational Linguistics, the following position is vacant:



Job Offer :	Scientific Assistant (PostDoc) or (PhD student) -m/f-
Place of Employment:	Saarbruecken / Germany
Date of Employment:	as soon as possible
Volume of Employment:	Post-Doc - full time employment PhD-Student - part time employment (75%)
Duration of Employment:	2 years (Post-Doc) / 3 years (PhD student); extensible in both cases until Dec 2022.

Position Description:

The Collaborative Research Center "Foundations of Perspicuous Systems" (SFB-TR 248; <https://www.perspicuous-computing.science/>) is pleased to invite applications for a highly motivated researcher in computational linguistics, psycholinguistics or HCI for project E2: "Safe Handover in Mixed-Initiative Control".

The mission of project E2 is to better understand how machines can safely hand over control to humans in mixed-initiative control settings. In a drone scenario for instance, drones may deal with typical situations autonomously, but may require an operator to intervene in situations that cannot be handled automatically. Operators then need to quickly understand the situation and problem of the drone, in order to successfully take over control.

The project will build technical support for handover situations by using description logics and planning techniques to characterize situations where a handover is necessary. It will also use these techniques to increase the advance notice for handovers at run time. Methods from human-computer interaction and natural language generation will be combined to develop solutions for safe and smooth handovers. A focus will lie on how to explain the relevant situation aspects effectively to the user. Ultimately, we strive to make human aspects of the human-machine system more accessible to formal analysis, thereby ensuring operational safety.

The project has several PhD positions. The NLP position supervised by Prof. Vera Demberg will comprise experimental components related to identifying successful handover strategies, as well as the development of automatic task-oriented dialog methods for supporting the hand-over via language interaction.

Project E2 is part of the Transregional Collaborative Research Centre 248 „Foundations of Perspicuous Software Systems“, which aims at enabling comprehension in a cyber-physical world with the human in the loop.

Mission statement of SFB-TR 248:

"From autonomous vehicles to Industry 4.0, from smart homes to smart cities – increasingly computer programs participate in actions and decisions that affect humans. However, our understanding of how these applications interact and what is the cause of a specific automated decision is lagging far behind. With the increase in cyber-physical technology impacting our lives, the consequences of this gradual loss in understanding are becoming severe. Systems lack support for making their behaviour plausible to their users. And even for technology experts it is nowadays virtually impossible to provide scientifically well-founded answers to questions about the exact reasons that lead to a particular decision, or about the responsibility for a malfunctioning. The root cause of the problem is that contemporary systems do not have any built-in concepts to explicate their behaviour. They calculate and propagate outcomes of computations, but are not designed to provide explanations. They are not perspicuous. The key to enable comprehension in a cyber-physical world is a science of perspicuous computing."

CRC 248 comprises experts at [Technische Universität Dresden](#) and at [Saarland Informatics Campus](#) – Universität des Saarlandes, Max Planck Institute for Informatics, and Max Planck Institute for Software Systems.

Supervision of students is possible if wanted.

For POSTDOC:

The opportunity for own academic training (habilitation) will be given.

For PhD-Student:

The opportunity for own academic training (doctorate) will be given.

For questions on more project details, please contact Vera Demberg at vera@coli.uni-saarland.de.

Conditions for Employment:**Mandatory conditions for employment are:**

For Post-Doc: PhD in computational linguistics, computer science or related area. For PhD Student: Master of Science in psycholinguistics, computational linguistics, human-computer interaction or a related discipline.
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Applicants with the qualifications noted below will be preferred:

For Post-Doc: Publications at first-tier international venue(s). For both: Experience in experimental methodology and statistical analysis is expected, experience with machine learning methods for NLP is expected. Fluent English.
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Work contract and salary will accord to the respective collective agreement, i.e. TV-L E13.

Full-time positions are in principle divisible (§ 7 Abs. 1 TzBfG).

Saarland University aims to increase the number of women in this field. Therefore, women are encouraged to apply for this position.

Physically handicapped persons will be preferred in case equally qualified.

Please refer to reference **W1458** in your application. Closing date for applications is **Jan 6th, 2019**. Please, submit your CV, letter of motivation outlining your research interests, list of publications and names of two referees in electronic form (one single pdf-file) to: **vera@coli.uni-saarland.de**.

Saarbrücken, 11.12.2018