Press Release

Tübingen, May 04, 2018

Arguments, Emotions, and News distribution in social media

Two new projects of the University of Stuttgart at the Leibniz-WissenschaftsCampus Tübingen „Cognitive Interfaces"

The Leibniz-WissenschaftsCampus Tübingen (WCT) will be expanded through two projects located at the University of Stuttgart starting in May 2018. The universities of Stuttgart and Tübingen and the Leibniz-Institut für Wissensmedien (IWM) consider this cooperation as a worthwhile preparatory work for the Excellence Cluster proposal "Understanding understanding: language and text". The projects, which are carried out by tandem partners from the IWM, the Institute for Natural Language Processing (IMS) and the Institute for Visualisation and Interactive Systems (VIS) of the University of Stuttgart, will be financed for three years by the University of Stuttgart.

The Leibniz-WissenschaftsCampus Tübingen will be expanded through the association of two projects, which are located at the Institute for Natural Language Processing and the Institute for Visualisation and Interactive Systems of the University of Stuttgart. Within a selection procedure the Advisory Board of the WCT recommended two of the submitted projects to be associated with the Leibniz-WissenschaftsCampus Tübingen. In their joint project "Emotion and argument in digital information environments" Prof. Dr. Sebastian Padó, Dr. Roman Klinger (IMS) and Prof. Dr. Kai Sassenberg (IWM) work on the structure of digital forums and examine, amongst others, which factors influence the persuasion of texts. Under the heading „Visual analysis of context changes in (social) media contributions" Prof. Dr. Thomas Ertl, Dr. Steffen Koch (VIS) and Prof. Dr. Sonja Utz (IWM) focus jointly, inter alia, on the automatic identification of contexts and news distribution in social media in order to improve the credibility of information from social media. The projects will be financed for a term of three years by the University of Stuttgart. Through the cooperation between IMS, VIS and IWM the different competencies complement each other optimally. Therefore, innovative, forward-looking and application-oriented research on the topic of cognitive interfaces can be expected. Furthermore, the association is an important preparatory work for the proposed Cluster of Excellence "Understanding understanding: language and text", which was submitted by the Universities of Stuttgart and Tübingen jointly with the Leibniz-Institut für Wissensmedien.

The Leibniz-WissenschaftsCampus Tübingen, founded in 2009, is an interdisciplinary research network of the Leibniz-Institut für Wissensmedien and the University of Tübingen. About 40 scientists from different disciplines investigate "Cognitive Interfaces" since July 2017. Caused by digital media, these cognitive interfaces influence our thinking, our decisions, our knowledge and our behavior. In the Leibniz-WissenschaftsCampus Tübingen, scientists from the departments of computer science, dentistry, didactics of biology, education, media studies, medicine, psychology and sports medicine research jointly. On the one hand they focus on the topic, as to how information need to be digitally edited in order to support knowledge-intensive activities optimally, such as learning or decision making (information design). On the other

hand, they examine the possibilities for action that should be made available to individuals or groups in order to process optimally the information given in the interface (interaction design). The 14 existing projects are formed by tandem partners from the Leibniz-Institut für Wissensmedien and the Eberhard Karls University Tübingen.

Information on the projects

Visual analysis of context changes in (social) media contributions

Prof. Dr. Thomas Ertl, Dr. Steffen Koch, Institute for Visualisation and Interactive Systems (VIS) of the University of Stuttgart & Prof. Dr. Sonja Utz, Leibniz-Institut für Wissensmedien (IWM)

The digitalization and especially social media has changed traditional communication patterns. On social media, news spread quickly and are also taken up by journalists. However, texts, photos and videos are often quoted out of context or are changed during the sharing process. In times of "fake news" and "social bots", caution in the evaluation and adoption of digital content is required. The goal of this project is to understand the dynamic development of themes and contexts of re-used digital fragments in order to improve the credibility of information from social media. Besides the development of interactive analysis methods, a second goal of the project is the development of a cognitive interface offering interactive features for the optimal visualization of the analysis results.

Emotion and argument in digital information environments

Prof. Dr. Sebastian Padó, Dr. Roman Klinger, Institute for Natural Language Processing (IMS) of the University of Stuttgart & Prof. Dr. Kai Sassenberg, Leibniz-Institut für Wissensmedien (IWM)

In the last twenty years societal discussions, which were traditionally determined by print media, radio, and television were moved into the digital world. At present, there is an ever expanding scope for groups of laypersons to self-organize and communicate within the group, which is particularly provided by social media. In addition to many positive outcomes, this development can also turn problematic, for instance by creating so-called "filter bubbles" in which every user feels surrounded by a large, seemingly representative crowd of like-minded individuals. This project deals with the structure of digital forums and particularly with the comparison of the respective prominence of argumentative structures (corresponding to 'classical' expert discourses) and emotional components (following the patterns of tweets and other short message formats). The key factors involved in the relationship between argument and emotion are investigated from a psychological and a computational linguistics point of view.

Further information on the Leibniz-WissenschaftsCampus Tübingen

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Prof. Dr. Bernd Engler, Rector of the University of Tübingen

Further information about the projects of the University of Stuttgart in the WCT „Cognitive Interfaces"

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The Leibniz-Institut für Wissensmedien

The Leibniz-Institut für Wissensmedien (IWM) analyses how digital technologies can be used to improve knowledge processes. The psychological basic research of the 110 scientists is concerned with practical fields like school and university, knowledge work with digital media, knowledge-based internet use and knowledge transfer in museums. From 2009 till 2016, the IWM together with the University of Tuebingen organised the first Leibniz-WissenschaftsCampus about the topic "Informational Environments" which has been running as follow-up project under the heading "Cognitive Interfaces" since 2017.

The Leibniz Association

The Leibniz Association connects 93 independent research institutions that range in focus from the natural, engineering and environmental sciences via economics, spatial and social sciences to the humanities. Leibniz institutes address issues of social, economic and ecological relevance. They conduct knowledge-driven and applied basic research, maintain scientific infrastructure and provide researchbased services. The Leibniz Association identifies focus areas for knowledge transfer, especially in cooperation with the Leibniz museums, and informs policymakers, academia, business and the public. Leibniz institutions collaborate intensively with universities – in the form of "Leibniz ScienceCampi" (thematic partnerships between university and non-university research institutes), for example – as well as with industry and other partners at home and abroad. They are subject to an independent evaluation procedure that is unparalleled in its transparency.