



Universität St.Gallen

Computer Science Insights @HSG - School of Computer Science

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Mine, Assess, Enhance - Computational Support for Improving Argumentative Writing Skills in Higher Education

Christina Niklaus

In today's world, effective academic writing is paramount for students' success, as it enables them to articulate their understanding, engage in critical thinking, and communicate their ideas effectively. Argumentative writing support plays a vital role in cultivating these skills, empowering students to construct convincing arguments, critically evaluate diverse perspectives, and develop their own positions. Traditionally, argumentative writing support has relied heavily on human feedback from experienced educators. However, providing consistent, high-quality feedback is resource-intensive and does not scale to large-scale online education settings. Thus, there is a growing need to develop computational approaches to automate this task. This talk explores the emerging role of computational methods in augmenting human feedback and enhancing the effectiveness of argumentative writing support. We will delve into techniques for automatically assessing writing quality, identifying areas for improvement, and generating targeted feedback to provide students with comprehensive and personalized guidance.

Christina Niklaus is an Assistant Professor for Computer Science with focus on Databases and Data Engineering at the University of St.Gallen. Her research primarily centers on Data Science and Natural Language Processing, dealing with the analysis of large-scale textual data. In particular, she is interested in developing intelligent systems that are capable of automatically processing and understanding the meaning of information at scale. To achieve this goal, Christina's work concentrates on the extraction of knowledge from big textual data, resulting in a structured machine-readable representation. Christina studied Computer Science at the University of Bamberg, ENSEEIHT Toulouse, and the University of Passau. In 2016, Christina joined the Data Science and Natural Language Processing Group at the University of Passau as a research assistant. She subsequently moved to the University of St.Gallen in 2019. In 2022, she completed her Ph.D. with distinction at the University of Passau.

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