Karlsruher Institut für Technologie

KCIST ONLINE LECTURE SERIES

KI@KIT

25. Januar 2021, 17:30 – 19:00 Uhr

KIT-Zentrum Information · Systeme · Technologien

Programm

Jennifer Buchmüller, *HoreKa – Two Innovative Chip Technologies – One High-Performance System*

Anne Koziolek, *Neural Language Models - A User's Perspective*

Christian Seidel, *Language Models in Social Science and Humanities*

Gregor Betz, *Can word-prediction machines (be taught to) reason -- and what does this teach us about reasoning?*

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PROGRAMM

Dr. Jennifer Buchmüller, Steinbuch Centre for Computing

HoreKa - Two Innovative Chip Technologies - One High-Performance System

Abstract: The new supercomputer HoreKa is currently being built at Campus North of KIT. HoreKa with its mix of architectures is ideally tailored to reaching the goal of developing scientific software of enhanced performance, efficiency, and sustainability. HoreKa is an innovative hybrid system with almost 60.000 next-generation Intel Processor cores as well as more than 750 NVIDIA A100 Tensor Core GPUs - perfectly designed for computing projects in the scientific field of AI/ML. In this talk we will briefly introduce the systems design, but also focus on the strategy of the users' access to the system, including Jupyter as a service @ SCC. This talk will also address the upcoming technologies and the support for sustainable, long-term software development at KIT.

Prof. Dr.-Ing. Anne Koziolek, KASTEL - Institute of Information Security and Dependability

Language Models in Social Science and Humanities

Abstract: Recently, deep neural language models have been successfully applied in many areas of natural language processing and achieved a new level of performance of natural language processing applications. In this talk, we will discuss the basic idea, how in particular transformer-based models work and how they can be applied for natural language tasks, with a focus on our research interest of aligning natural language documents with given models of a system.

Prof. Dr. Christian Seidel, Department für Philosophie, Institut für Technikzukünfte

Language Models in Social Science and Humanities

Abstract: Dieser Vortrag stellt programmatisch die Ideen eines Forschungsnetzwerkes vor, das sich mit Anwendungen von neural language models für Fragestellungen der Sozial- und Geisteswissenschaften befasst und die Möglichkeiten künstlich realisierten Verstehens auslotet.

Univ.-Prof. Dr. Gregor Betz, Department für Philosophie

Can word-prediction machines (be taught to) reason -- and what does this teach us about reasoning?

Abstract: Transformer-based language models, which are about to revolutionize the field of NLP, promise to shed new light on old philosophical questions pertaining to the nature of reason and rationality, and the relation between mind and language. In particular, they might provide an entirely novel framework for evaluating epistemological theories (i.e., normative theories of knowledge acquisition and sound reasoning) by constructing and probing natural language models of rational agents. Such artificial rational agents might also be used to control systems (robots), which would give you transparent, fully explainable AI for free. In this short talk, I will present selected results from two studies that investigate the reasoning skill of neural language models and are informed by our previous work in argumentation theory.