



**PARIS
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Gastvortrag
Fachbereich Informatik
09. Juli 2025 um 15:00 Uhr



Approximating Opaque Top-k Queries

Der Fachbereich Informatik der Paris-Lodron-Universität Salzburg

lädt am

Mittwoch, 09. Juli 2025 um 15:00 Uhr

im Hörsaal T02,
Jakob-Haringer-Straße 2, (JAK2 2.OG.01)
zum

Vortrag

von

Fatemeh Nargesian

ein.

Nikolaus Augsten

Host

Approximating Opaque Top-k Queries

There are two main lines of thought on the ideal interface for ML UDFs. One proposes replacing SQL entirely with natural language. The other advocates keeping SQL while extending it with first-class support for ML UDFs. Compared to natural language interfaces, which are well-suited for parsing unstructured documents and are more accessible to non-expert users, SQL extensions are a better fit for expert data engineers working with structured data. In this talk, I will focus on the latter direction: optimizing SQL queries by treating ML UDFs as opaque functions and statistically pruning unnecessary computation. In particular, we will explore techniques for optimizing top-K queries involving opaque UDFs. I will present a solution based on a task-independent hierarchical index and a bandit algorithm that provides guarantees on the quality of results. Finally, I will briefly discuss our ongoing and future work on optimizing ML UDF performance.

Zur Person Fatemeh Nargesian:

Fatemeh Nargesian is an assistant professor of computer science at the University of Rochester. She obtained her PhD at the University of Toronto. Her research interests are in (distribution-aware) dataset discovery, data efficiency for ML, and scientific time-series management. She is a recipient of the NSF CAREER Award and Best VLDB'17 Demo award. Fatemeh Nargesian is visiting the University of Salzburg as part of the Scientist-in-Residence Program run by the City of Salzburg.