Immanuel Trummer

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OVERVIEW

Immanuel Trummer is an associate professor for computer science at Cornell University. His publications were selected for "Best of VLDB", for "Best of SIGMOD", for the ACM SIGMOD Research Highlight Award, and for publication in CACM as CACM Research Highlight. He is a recipient of the NSF Career Award and of multiple Google Faculty Research Awards.

ACADEMIC CAREER

2024-Present	**Associate Professor for Computer Science**
	Cornell University, Ithaca (NY), USA
2016-2024	**Assistant Professor for Computer Science**
	Cornell University, Ithaca (NY), USA
2010-2016	**PhD Student in Computer Science**
	Advisor: Christoph Koch
	EPFL, Lausanne (VD), Switzerland
2003-2010	**Double Diploma in Computer Science & Engineering**
	University of Stuttgart (Germany) & Ecole Centrale de Nantes (France)

AWARDS and HONORS

- Invitation to publish in "Best of VLDB", 2024
- SIGMOD Best Demo Runner Up Award, 2023
- Recipient of NSF CAREER Award, 2022
- BDA Best Demo Award, 2020
- Google grant for COVID-19 AI and Data Analytics Projects, 2020
- Publication selected for Best of SIGMOD, 2019
- PI of NSF-1910830, 2019
- Recipient of Google Faculty Research Award, 2018
- Publication selected as CACM Research Highlight, 2017
- Jim Gray Dissertation Award, Honorable Mention, 2016
- Recipient of Google Faculty Research Award, 2016
- Selected for ACM SIGMOD Research Highlight Award, 2015
- Invitation to publish in "Best of VLDB", 2015

SELECTED PUBLICATIONS

- **SIGMOD 2024** ThalamusDB: Approximate Query Processing on Multi-Modal Data. *Saehan Jo, Immanuel Trummer.*

- **SIGMOD 2024** ROME: Robust Query Optimization via Parallel Multi-Plan Execution. *Ziyun Wei, Immanuel Trummer.*

- **SIGMOD 2024** Demonstrating λ-Tune: Exploiting Large Language Models for Workload-Adaptive Database System Tuning. *Victor Giannakouris, Immanuel Trummer.*

- **ICDE 2024** Tutorial on Large Language Models: Principles and Practice. *Immanuel Trummer.*
- **VLDB 2024** Generating Succinct Descriptions of Database Schemata for Cost-Efficient Prompting of Large Language Models. *Immanuel Trummer.*
- **VLDB 2024** Can Large Language Models Predict Data Correlations from Column Names? *Immanuel Trummer.*
- **VLDB 2024** Quantum-Inspired Digital Annealing for Join Ordering. *Manuel Schönberger, Immanuel Trummer, Wolfgang Mauerer.*
- **VLDB 2024** Language Models Enable Simple Systems for Generating Structured Views of Heterogeneous Data Lakes. *Simran Arora, Brandon Yang, Sabri Eyuboglu, Avanika Narayan, Andrew Hojel, Immanuel Trummer, Christopher Re.*
- **RLC 2024** JoinGym: An Efficient Join Order Selection Environment. *Junxiong Wang, Kaiwen Wang, Yueying Li, Nathan Kallus, Immanuel Trummer, Wen Sun.*
- **MEAP Book** AI-Assisted Data Science: Large Language Models for Multimodal Data Analysis. *Immanuel Trummer.*
- **VLDBJ 2023** DB-BERT: Making Database Tuning Tools "Read" the Manual. *Immanuel Trummer.*
- **PVLDB 2023** ADOPT: Adaptively Optimizing Attribute Orders for Worst-Case Optimal Join Algorithms via Reinforcement Learning. *Junxiong Wang, Immanuel Trummer, Ahmet Kara, Dan Olteanu.*
- **PVLDB 2023** Demonstrating GPT-DB: Generating Query-Specific and Customizable Code for SQL Processing with GPT-4. *Immanuel Trummer.*
- **SIGMOD 2023** Demonstrating NaturalMiner: Searching Large Data Sets for Abstract Patterns Described in Natural Language. *Immanuel Trummer.*
  Best Demo Runner Up Award
- **SIGMOD 2023** Demonstration of ThalamusDB: Answering Complex SQL Queries with Natural Language Predicates on Multi-Modal Data. *Saehan Jo, Immanuel Trummer.*
- **AAAI 2022.** Procrastinated Tree Search: Black Box Optimization with Delayed, Noisy, and Multi-Fidelity Feedback. *Junxiong Wang, Debabrota Basu, Immanuel Trummer.*
- **PVLDB 2022.** CodexDB: Synthesizing Code for Query Processing from Natural Language Instructions Using GPT-3 Codex. *Immanuel Trummer.*
  Invited for "Best of VLDB"
- **PVLDB 2022.** BABOONS: Black-Box Optimization of Data Summaries in Natural Language. *Immanuel Trummer.*
- **PVLDB 2022.** From BERT to GPT-3 Codex: Harnessing the Potential of Very Large Language Models for Data Management. *Immanuel Trummer.*
- **CIDR 2022.** Towards NLP-Enhanced Data Profiling Tools.
  Immanuel Trummer.
- **SIGMOD 2022.** DB-BERT: a Database Tuning Tool that "Reads the Manual".
  Immanuel Trummer.

TEACHING

- CS 4320: Introduction to database systems
- CS 4321: Practicum in database systems
- CS 6320: Advanced database systems
- CS 7390: Seminar in database systems

I posted an [online lecture](#) on data management that received over one million views.