

Immanuel Trummer

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OVERVIEW

Immanuel Trummer is assistant professor for computer science at Cornell University. His research focuses on databases and data analysis, in particular on optimization and planning problems that arise in this context. His publications were selected for “Best of VLDB”, for the ACM SIGMOD Research Highlight Award, and for publication in CACM as CACM Research Highlight. Most recently, he received a Google Faculty Research Award in the category “Database Management”.

ACADEMIC CAREER

Assistant Professor for Computer Science Start: 2016
Cornell University USA

PhD in Computer Science 2010-2016
EPFL, Advisor: Christoph Koch Switzerland

Double Diploma in Computer Science & Engineering 2003-2010
University of Stuttgart & Ecole Centrale de Nantes Germany & France

AWARDS & HONORS

- Publication selected as CACM Research Highlight
- Jim Gray Dissertation Award, Honorable Mention
- Recipient of Google Faculty Research Award 2016
- Selected for ACM SIGMOD Research Highlight Award 2015
- Invitation to publish in “Best of VLDB 2015” (VLDB Journal)
- Google European PhD Fellowship in structured data analysis
- USRA grant for accessing a quantum annealer
- EPFL IC Teaching Assistant Award 2015
- Scholarship of the German National Academic Foundation
- Obtained diploma with distinction, ranked among top five students
- First graduation prize by the Computer Science Forum Stuttgart
- Scholarship for Academic Excellence by the University of Stuttgart
- Scholarship for the TIME double degree program
- 2nd prize at German national music competition

MAIN PUBLICATIONS

Conference Publications

- Immanuel Trummer and Christoph Koch.
Solving the join ordering problem via mixed-integer linear programming.
SIGMOD 2017.
- Immanuel Trummer, Jiancheng Zhu, Mark Bryan.
Data Vocalization: optimizing voice output of relational data.
VLDB 2017.
- Immanuel Trummer, Christoph Koch.
A fast randomized algorithm for multi-objective query optimization.
SIGMOD 2016.
- Immanuel Trummer, Christoph Koch.
Multiple query optimization on the D-Wave 2X adiabatic quantum computer.
VLDB 2016.
- Immanuel Trummer, Christoph Koch.
Parallelizing query optimization on shared-nothing architectures.
VLDB 2016.

- Immanuel Trummer, Christoph Koch.
An incremental anytime algorithm for multi-objective query optimization.
SIGMOD 2015.
- Immanuel Trummer, Alon Halevy, Hongrae Lee, Sunita Sarawagi, Rahul Gupta.
Mining subjective properties on the Web.
SIGMOD 2015.
- Immanuel Trummer, Christoph Koch.
Multi-objective parametric query optimization.
VLDB 2015.
- Immanuel Trummer, Christoph Koch.
Approximation schemes for many-objective query optimization.
SIGMOD 2014.

Journal Articles

- Immanuel Trummer, Christoph Koch.
Multi-objective parametric query optimization.
CACM Research Highlights 2017.
- Immanuel Trummer, Christoph Koch.
Multi-objective parametric query optimization.
ACM SIGMOD Research Highlights 2015.
- Immanuel Trummer, Christoph Koch.
Multi-objective parametric query optimization.
“Best of VLDB 2015” (*VLDB Journal*).
- Immanuel Trummer, Boi Faltings, Walter Binder.
Multi-objective quality-driven service selection –
A fully polynomial time approximation scheme.
Transactions on Software Engineering, 2014.

Theses

- Immanuel Trummer.
From massive parallelization to quantum computing: seven novel
approaches to query optimization.
PhD Thesis, 2016.
- Immanuel Trummer.
Cost-optimal provisioning of cloud applications.
Diploma Thesis, 2010.

INDUSTRIAL EMPLOYMENT

Google Intern, Web Answers & Web Tables	5/2014-9/2014 Mountain View, USA
IBM Intern, Extreme Blue Program	7/2007-10/2007 Böblingen, Germany
Agricultural Ministry of Mali Software Developer	4/2006-6/2007 Nantes, France
Alcatel Intern, R&D Division	7/2006-8/2006 Paris, France

LANGUAGES

German	Native speaker.
English	Published and taught in English for six years.
French	Eight years of studies in francophone countries; taught courses in French.