

Advanced Topics in Foundations of Databases

Material for Final Project and Essays

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Theme 2: Uncertainty - Reasoning over Possible Worlds

Inconsistent Databases

1. Marcelo Arenas, Leopoldo E. Bertossi, Jan Chomicki:
Consistent Query Answers in Inconsistent Databases. PODS 1999: 68-79
2. Marco Calautti, Leonid Libkin, Andreas Pieris:
An Operational Approach to Consistent Query Answering. PODS 2018: 239-251
3. Balder ten Cate, Gaëlle Fontaine, Phokion G. Kolaitis:
On the Data Complexity of Consistent Query Answering. ICDT 2012: 22-33
4. Akhil A. Dixit, Phokion G. Kolaitis:
A SAT-Based System for Consistent Query Answering. SAT 2019: 117-135
5. Thomas Lukasiewicz, Maria Vanina Martinez, Andreas Pieris, Gerardo I. Simari:
From Classical to Consistent Query Answering under Existential Rules. AAI 2015: 1546-1552

Incomplete Databases

1. Marco Console, Paolo Guagliardo, Leonid Libkin:
On Querying Incomplete Information in Databases under Bag Semantics. IJCAI 2017: 993-999
2. Marco Console, Paolo Guagliardo, Leonid Libkin:
Propositional and Predicate Logics of Incomplete Information. KR 2018: 592-601
3. Paolo Guagliardo, Leonid Libkin:
Making SQL Queries Correct in Incomplete Databases: A Feasibility Study. PODS 2016: 211-223
4. Leonid Libkin:
Incomplete data: what went wrong, and how to fix it. PODS 2014: 1-13

Probabilistic Databases

1. Nilesh N. Dalvi, Dan Suciu:
Efficient Query Evaluation on Probabilistic Databases. VLDB J. 16(4): 523-544 (2007)
2. Nilesh N. Dalvi, Dan Suciu:
Management of Probabilistic Data: Foundations and Challenges. PODS 2007: 1-12

Knowledge-enriched Databases

1. Jean-François Baget, Michel Leclère, Marie-Laure Mugnier, Eric Salvat:
On Rules with Existential Variables: Walking the Decidability Line. Artif. Intell. 175(9-10): 1620-1654 (2011)
2. Andrea Cali, Georg Gottlob, Thomas Lukasiewicz:
A General Datalog-based Framework for Tractable Query Answering over Ontologies. J. Web Sem. 14: 57-83 (2012)
3. Georg Gottlob, Stanislav Kikot, Roman Kontchakov, Vladimir V. Podolskii, Thomas Schwentick, Michael Zakharyashev:
The Price of Query Rewriting in Ontology-based Data Access. Artif. Intell. 213: 42-59 (2014)
4. Georg Gottlob, Giorgio Orsi, Andreas Pieris:
Query Rewriting and Optimization for Ontological Databases. ACM Trans. Database Syst. 39(3): 25:1-25:46 (2014)