

Dr. Johann Bornholdt

Group Leader, Data Systems Research Group

Thurgau Institute for Digital Transformation, Kreuzlingen, Switzerland

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Academic Qualifications

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| 2020 - 2026 | University of Konstanz , Konstanz, Germany
<i>Ph.D. in Computer Science, Database Systems</i> |
| 2013 - 2016 | University of Konstanz , Konstanz, Germany
<i>M.Sc. in Computer and Information Science</i> |
| 2009 - 2013 | HTWG , Konstanz, Germany
<i>B.Sc. in Business Informatics</i> |

Professional Experience

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| 2026-01 - Present | Thurgau Institute for Digital Transformation
<i>Group Lead, Data Systems Research Group</i>
Leading a research group on data systems for trajectory and other complex data, spanning query optimization, system prototyping, and technology transfer with regional industry partners. |
| 2017-01 - 2020-10 | SEITENBAU GmbH
<i>Software Developer</i>
For the Deutsche Telekom AG, developed and maintained several back-end components of the Telefonie Configuration Center, high availability system.
For the German chancellery (Bundeskanzleramt), developed PKP (gemeinsames Planungs- und Kabinettsmanagement-Programm), a database into text- and spreadsheet documents. |
| 2014-04 - 2016-10 | University of Konstanz
<i>Research Assistant</i>
Developed and maintained a relational database system for educational use (Minibase for Java).
Worked as a Tutor for Database Systems lecture. |

Publications

1. **Johann Bornholdt**. Building a System for Trajectory Data Management and Analysis. Dissertation, University of Konstanz, 2026
2. **Johann Bornholdt**, Theodoros Chondrogiannis and Michael Grossniklaus. Trajectory Data Management: A Data Model and Predicate Logic with Operators for Spatio-Temporal Query Processing. **Information Systems**. 2026, doi: 10.1016/j.is.2025.102595
3. Max Galetzki, **Johann Bornholdt**, Theodoros Chondrogiannis and Michael Grossniklaus. A Qualitative Evaluation of Distance Measures in Trajectory Data Clustering. **SIGSPATIAL**. 2025, doi: 10.1145/3748636.3762735
4. **Johann Bornholdt**, Theodoros Chondrogiannis and Michael Grossniklaus. A Data Model and Predicate Logic for Trajectory Data. **ADBIS**. 2024, doi: 10.1007/978-3-031-70626-4_2
5. **Johann Bornholdt**. A System for Trajectory Data Management and Analysis. **EDBT/ICDT Workshops**. 2023, CEUR Workshop Proceedings. 3379
6. Theodoros Chondrogiannis, **Johann Bornholdt**, Panagiotis Bouros and Michael Grossniklaus. History Oblivious Route Recovery on Road Networks. **SIGSPATIAL**. 2022, doi: 10.1145/3557915.3560979

Teaching Experience

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| 2024 - 2025 | Big Data Management an Analysis , University of Konstanz
<i>Professor:</i> Prof. Michael Grossniklaus
Teaching assistant for undergraduate course. Designed and graded assignments; held weekly tutorial sessions. |
| 2021 - 2024 | Database System Architecture and Implementation , University of Konstanz
<i>Professor:</i> Prof. Michael Grossniklaus
Teaching assistant for graduate-level course. Developed programming assignments and held bi-weekly sessions to discuss and assess student work. |
| 2014 | Database Systems , University of Konstanz
<i>Professor:</i> Prof. Michael Grossniklaus
Teaching assistant for undergraduate course. Held weekly tutorial sessions. |

Awards

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| 2024 | Best Paper Award , ADBIS
Awarded for our paper "A Data Model and Predicate Logic for Trajectory Data." |
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Languages

German (native), **English** (fluent), **Spanish** (basic)