Scientific Publications and Activities of the SAP HANA Database Campus

This is a list of selected publications and activities made by the SAP HANA Database Campus.

2019


2018

- Florian Wolf, Michael Brendle, Norman May, Paul. R. Willems, Kai-Uwe Sattler, Michael Grossniklaus: Robustness Metrics for Relational Query Execution Plans. VLDB ’18 [Paper]
- Frank Tetzel, Hannes Voigt, Marcus Paradies, Romans Kasperovics, Wolfgang Lehner: Analysis of Data Structures Involved in RQP Evaluation. DAT’18
- Thomas Bach, Ralf Pannemans and Sascha Schwedes: Effects of an Economic Approach for Test Case Selection and Reduction for a Large Industrial Project. TAIC PART ’18 [Paper]
- Renzo Angles, Marcelo Arenas, Pablo Barcelo, Peter Boncz, George Fletcher, Claudio Gutierrez, Tobias Lindaaker, Marcus Paradies, Stefan Plantikow, Juan Sequeda, Oskar van Rest, Hannes Voigt: G-CORE: A core for future graph query languages. SIGMOD’18 [Paper]
- Florian Wolf, Norman May, Paul R. Willems, Kai-Uwe Sattler: On the Calculation of Optimality Ranges for Relational Query Execution Plans. SIGMOD ’18 [Paper]

2017

- Stefan Bäuerle, Alexander Böhm: Bridging the semantical gap between relational data and application-level business objects with core data services. Invited talk. DBPL@VLDB 2017
- Stefan Bäuerle, Alexander Böhm: Bringing computation to the database with Core Data Services (CDS). LWDA 2017
- Marcus Paradies, Cornelia Kinder, Jan Bross, Thomas Fischer, Romans Kasperovics and Hinnerk Gildhoff: GraphScript: Implementing Complex Graph Algorithms in SAP HANA. DBPL@VLDB 2017
- Ismail Oukid, Anisoara Nica, Daniel Dos Santos Bossle, Wolfgang Lehner, Peter Bumbulis, Thomas Willhelm: Adaptive Recovery for SCM-Enabled Databases. ADMS@VLDB 2017
- Jan Bröss, Simon Gog, Matthias Hauck and Marcus Paradies: Fast Construction of Compressed Web Graphs, SPIRE 2017
- Lucas Lersch, Ismail Oukid, Ivan Schreter, Wolfgang Lehner: Rethinking DRAM Caching for LSMS in an NVRAM Environment. ADBIS 2017
- Lucas Lersch, Ismail Oukid, Wolfgang Lehner, Ivan Schreter: Abstract: An Analysis of L SCM Caching in NVRAM. DaMoN 2017
- Frank Tetzel, Hannes Voigt, Marcus Paradies, Wolfgang Lehner: An Analysis of the Feasibility of Graph Compression Techniques for Indexing Regular Path Queries. GRADES 2017
- Matthias Hauck, Marcus Paradies, Holger Fröning: Can Modern Graph Processing Engines Run Concurrent Queries Efficiently? GRADES 2017
- Norman May, Alexander Boehm, Wolfgang Lehner: SAP HANA - The Evolution of an In-Memory DBMS from OLAP Processing Towards Mixed Workloads. BTW 2017
- Michael Rudolf, Hannes Voigt, Wolfgang Lehner: SPARQLytics: Multidimensional Analytics for RDF. BTW 2017
- Thomas Bach, Artur Andrzejak, and Ralf Pannemans: Coverage-Based Reduction of Test Execution Time: Lessons from a Very Large Industrial Project, TAIC PART 2017, co-located with: 10th IEEE International Conference on Software Testing, Verification and Validation
2016

- Tobias Scheuer, Norman May, Alexander Boehm, Daniel Scheibl: JexLog: A Sonar for the Abyss, Demo. VLDB 2016, New Delhi, India, Sept. 5-9, 2016
- Alexander Boehm, Jens Dittrich (Saarland University), Nilyo Mukherjee (Oracle), Ipoppolitis Pandis (Amazon Web Services) Rajkumar Sen (Oracle): Tutorial: Operational analytics data management systems, VLDB 2016, New Delhi, India, Sept. 5-9, 2016
- Ismail Oukid, Daniel Booss, Adrien Lespinasse, Wolfgang Lehner. On Testing Persistent-Memory-Based Software. DaMoN 2016 (co-located with SIGMOD 2016), San Francisco, California, USA, June 27, 2016.

2015

- Matthias Hauck, Marcus Paradies, Holger Fröning, Wolfgang Lehner and Hannes Rauhe, Highspeed Graph Processing Exploiting Main-Memory Column Stores, Workshop on Performance Engineering for Large Scale Graph Analytics (PELGA2015), in conjunction with EuroPar 2015, Vienna, Austria, Aug. 25, 2015.
- 2nd place in the ACM SIGMOD 2015 programming contest. For more details, click here.
- The second SAP HANA student Campus Open House day took place in Walldorf on June 24th, 2015. For more details, click here.
- Mehul Wagle, Daniel Booss, Ivan Schreter. Scalable NUMA-Aware Memory Allocations with In-Memory Databases. TPCTC 2015 (co-located with VLDB 2015), Kohala Coast, Hawaii, USA, August 31 - September 4, 2015.
- Marcus Paradies, Elena Vasilyeva, Adrian Mocan, Wolfgang Lehner. Robust Cardinality Estimation for Subgraph Isomorphism Queries on Property Graphs. Big-O(Q) 2015 (co-located with VLDB 2015), Kohala Coast, Hawaii, USA, August 31 - September 4, 2015.
- David Kernert, Norman May, Michael Hladik, Klaus Werner, Wolfgang Lehner. From Static to Agile - Interactive Particle Physics Analysis with the SAP HANA DB. DATA 2015, Colmar, France, July 20-22, 2015.
- Elena Vasilyeva, Maik Thiele, Adrian Mocan, Wolfgang Lehner. Relaxation of Subgraph Queries Delivering Empty Results. SSDBM 2015, San Diego, USA, June 29 - July 1, 2015.
- Martin Kaufmann, Peter M. Fischer, Norman May, Chang Ge, Anil K. Goel, Donald Kossmann. Bi-temporal Timeline Index: A Data Structure for Processing Queries on Bi-temporal Data. ICDE 2015, Seoul, Korea, April 2015.
• The first SAP HANA Student Campus Open House day took place in Walldorf on June 5th, 2014. For more details, click here.
• Kim-Thomas Rehmann, Alexander Böhm, Dong Hun Lee, Jörg Wiemers: Continuous performance testing for SAP HANA. First International Workshop on Reliable Data Services and Systems (RDSS), Co-located with ACM SIGMOD 2014, Snowbird, Utah, USA.
• Guido Moerkotte, David DeHaan, Norman May, Anisoara Nica, Alexander Böhm: Exploiting ordered dictionaries to efficiently construct histograms with q-error guarantees in SAP HANA. SIGMOD Conference 2014, Snowbird, Utah, USA.
• Marcus Paradies, Michael Rudolf, Christof Bornhövd, Wolfgang Lehner. GRATIN: Accelerating Graph Traversals in Main-Memory Column Stores. GRADES 2014, Snowbird, USA, June 22-27, 2014.
• David Kernert, Frank Köhler, Wolfgang Lehner. SLACID - Sparse Linear Algebra in a Columnar In-Memory Database System. SSDBM, Aalborg, Denmark, June/July 2014.
• Ingo Müller, Peter Sanders, Robert Schulze, Wei Zhou. Retrieval and Perfect Hashing using Fingerprinting. SEA 2014, Copenhagen, Denmark, June/July 2014.
• Elena Vasilyeva, Maik Thiele, Christof Bornhövd, Wolfgang Lehner: GraphMCS: Discover the Unknown in Large Data Graphs. EDBT/ICDT Workshops: 200-207.

2013

• Martin Kaufmann. PhD Workshop: Storing and Processing Temporal Data in a Main Memory Column Store. VLDB 2013, Riva del Garda, Italy, August 29-30, 2013.
• Iraklis Psaroudakis, Tobias Scheuer, Norman May, Anastasia Ailamaki. Task Scheduling for Highly Concurrent Analytical and Transactional Main-Memory Workloads. ADMS 2013, Riva del Garda, Italy, August 2013.
• David Kernert, Frank Köhler, Wolfgang Lehner. Bringing Linear Algebra Objects to Life in a Column-Oriented In-Memory Database. IMDM 2013, Riva del Garda, Italy, August 2013.
• Martin Kaufmann, Peter M. Fischer, Norman May, Andreas Tonder, Donald Kossmann. TPC-BiH: A Benchmark for Bi-Temporal Databases. TPCTC 2013, Riva del Garda, Italy, August 2013.
• Martin Kaufmann, Panagiotis Vagenas, Peter M. Fischer (Univ. of Freiburg), Donald Kossmann, Franz Färber (SAP). DEMO: Comprehensive and Interactive Temporal Query Processing with SAP HANA. VLDB 2013, Riva del Garda, Italy, August 26-30, 2013.
• Philipp Großé, Wolfgang Lehner, Norman May: Advanced Analytics with the SAP HANA Database. DATA 2013.
• Jonathan Dees, Peter Sanders. Efficient Many-Core Query Execution in Main Memory Column-Stores. ICDE 2013, Brisbane, Australia, April 8-12, 2013.
• Martin Kaufmann, Peter M. Fischer (Univ. of Freiburg), Donald Kossmann, Norman May (SAP). DEMO: A Generic Database Benchmarking Service. ICDE 2013, Brisbane, Australia, April 8-12, 2013.
• Martin Kaufmann, Amin A. Manjili, Peter M. Fischer (Univ. of Freiburg), Donald Kossmann, Franz Färber (SAP), Norman May (SAP): Timeline Index: A Unified Data Structure for Processing Queries on Temporal Data. SIGMOD 2013, New York, USA, June 22-27, 2013.
• Martin Kaufmann, Amin A. Manjili, Stefan Hildenbrand, Donald Kossmann, Andreas Tonder (SAP), Time Travel in Column Stores. ICDE 2013, Brisbane, Australia, April 8-12, 2013.
• Robert Brunel, Jan Finis: Eine effiziente Indexstruktur für dynamische hierarchische Daten. BTW Workshops 2013: 287-276

2012

• Sikka, V., Färber, F., Lehner, W., Cha, S. K., Peh, T., & Bornhövd, C. (2012). Efficient transaction processing in SAP HANA database. SI
GMOD Conference (p. 731).

- Sebastian Breß, Felix Beier, Hannes Rauhe, Eike Schallehn, Kai-Uwe Sattler, and Gunter Saake. 2012. Automatic selection of processing units for coprocessing in databases. ADBIS’12

2011


2010

- Paradies, M., Lemke, C., Plattner, H., Lehner, W., Sattler, K., Zeier, A., Krüger, J. (2010): How to Juggle Columns: An Entropy-Based Approach for Table Compression, IDEAS.

2009


2008

- Transier, F., & Sanders, P. (2008). Compressed Inverted Indexes for In-Memory Search Engines. ALLENEX (pp. 3-12).

2007


2006