Seminar: Implementation techniques for main-memory DBMS

First meeting

Garching, July 13th, 2017
Dates

Weekly meeting
Tuesday, 14 p.m. - 15:30 p.m. (starting on 17.10.2017 until end of semester)
Room 02.09.014
2 student presentations per meeting

Structure
E-Mail to schuele@in.tum.de for paper recommendation
Send one e-mail when structure is ready
Send one e-mail when first draft is ready

Parts
Seminar thesis (<10 pages)
Presentation (20-30 minutes)
Sample implementation (depending on topic, SQL or C++)
Topics

Versioning for databases / Versionsverwaltung für Datenbanken
Aggregation of temporal data on NVIDIA GPUs (supervisor: Andreas Kipf, NVIDIA graphics board required)
Improvements of Bloom-Filters (idea by: Andreas Kipf)
Database Cracking
MapReduce and SQL: Do we need MapReduce?
How database index structures can be used for Data Mining
Topics about Graph Databases (supervisor: Jan Böttcher)
Topics

Datamining on specific algorithms: Is it possible using SQL?
Clustering-Algorithms like DBScan
Classification: Decision Trees
Classification: Naive-Bayes
Linear Regression
Logistic Regression
Time series analysis: ARIMA model
Text analysis: TFIDF
Text analysis: Topic analysis
Hypothesis-Testing
Topics (all)

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  - Clustering-Algorithms like DBScan
  - Classification: Decision Trees
  - Classification: Naive-Bayes
  - Linear Regression
  - Logistic Regression
  - Time series analysis: ARIMA model
  - Text analysis: TFIDF
  - Text analysis: Topic analysis
  - Hypthesis-Testing
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How database index structures can be used for Data Mining
Topics about Graph Databases (supervisor: Jan Böttcher)
https://db.in.tum.de/teaching/ws1718/seminarHauptspeicherdb

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Viel Spaß!