

Dr.techn. Julia Theresa Csar



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Birthdate December 5th, 1987—Wels, Austria

Education

2014–2018 DR.TECHN. PhD in Computer Science, TU Wien.
Cloud Computing Techniques for Winner Determination in Computational Social Choice.
2011–2013 MAG.RER.SOC.OEC Master in Statistics, University of Vienna
2006–2011 BAKK. RER. SOC. OEC Bachelor in Statistics, University of Vienna
2006 MATURA Higher School Certificate at BG/BRG Dr. Schauerstraße 9, Wels

Work Experience

2014–today **PRAEDOC UNIVERSITY ASSISTANT** in the Database and Artificial Intelligence Group at the Technical University of Vienna. Besides doing research my responsibilities are also in teaching.

Research: Design and development of algorithms for winner determination in computational social choice for cloud computing environments (Hadoop, Spark). Investigation of the parallelizability of problems and implementation and development of algorithms using the concepts of MapReduce and Pregel.

Teaching (DBS and DM): I was part of the team running the courses 'Datamodelling' and 'Databasesystems' with 200 - 400 students per semester. My responsibilities were planning of the semester, preparation and correction of exams and exercises and coordinating the Tutors – 12-15 Tutors were assisting in the course. Further I was teaching students in exercise groups.

Teaching (ADBS): The course Advanced Database Systems (ADBS) is going to take place for the first time in Summerterm 2019, but the preparations are already running since 2017. The topics are cloud computing environments and NoSQL systems. I am preparing the exercises on the newly acquired Hadoop cluster and parts of the theoretical contents of the course.

- SS 2017 Teaching the course "Grundzüge Relationaler Datenbanken" (Databasesystems) at the Statistics Department of the University of Vienna.
- SS 2014 Adjunct Professor for the Undergraduate Semester Course: MATH 1410/51 Introductory College Mathematics (Spring Semester) at the Webster University Vienna.
- SS 2012 Tutor for the course "Evaluation und Assessment im Bildungsbereich" at the University of Vienna
- WS 2011/12 Tutor for the course "System- und Modelltheorie" at the University of Vienna
- 2008–2010 **RESEARCH ASSISTANT** at the University of Vienna, Institute of Scientific Computing
 LOGI.DIAG—Test Driven Development and Condition Monitoring in Automated Systems
 Development and implementation of a statistical compression algorithm that can be used for real time analysis and predictive maintenance. Implementation of functions used for condition monitoring.
- 2007 Internship at the Federal State Government, Statistics Department
- 2006 Summerjob at the District Authority Wels-Land, Citizen Service
- 2005 Summerjob at the District Authority Wels-Land, Traffic Department

Voluntary & Extracurricular Activities

- 2016–today Replacement member of the faculty council at the Technical University of Vienna
- 2011–today Executive committee member of the Forum Junge Statistik (a society for young statisticians)
- 2011–2013 Member of the study conference of the faculty for economics at the University of Vienna
- 2011–2013 Head of the students' union for students of statistics at the University of Vienna
- 2003–2005 Participant at the Austrian Mathematics Olympics
- 2002 Participant at the Austrian Mini Mathematics Olympics

Peer-reviewed Publications

- 2018 *Computing the Schulze Method for Large-Scale Preference Data Sets*
 Theresa Csar, Martin Lackner, Reinhard Pichler
 (to appear) IJCAI-18, Stockholm, Sweden
- 2018 *CloudVoting: Analyzing Preferences using Spark and GraphX*
 Theresa Csar, 11th MPREF Workshop @ AAI-18, New Orleans, USA
- 2017 *Computational Social Choice in the Cloud*
 Theresa Csar, Martin Lackner, Reinhard Pichler, Emanuel Sallinger
 PPI17 Workshop @ BTW 2017, Stuttgart, Germany
- 2017 *Winner Determination in Huge Elections with MapReduce*
 Theresa Csar, Martin Lackner, Reinhard Pichler, Emanuel Sallinger
 AAI-17, San Francisco, USA

- 2016 *Winner Determination in Huge Elections with MapReduce*
Theresa Csar, Martin Lackner, Reinhard Pichler, Emanuel Sallinger
10th MPREF Workshop @ IJCAI-16, New York City, USA
- 2015 *Using Statistics for Computing Joins with MapReduce*
Theresa Csar, Reinhard Pichler, Emanuel Sallinger, Vadim Savenkov
Alberto Mendelzon Workshop, Lima, Peru
- 2010 *Prototyping Predictive Maintenance Tools with R*
Erich Neuwirth, Theresa Csar
R User Conference, Gaithersburg, Maryland, USA

Code projects available as open source

- CloudVoting Spark library for Computational Social Choice (Scala)
<https://github.com/theresacsar/CloudVoting>
- BigVoting MapReduce Algorithms for Computational Social Choice (Java)
<https://github.com/theresacsar/BigVoting>

Master's and Bachelor's Theses

- 2013 Master's Thesis: *Calculation of the transition density of allele frequencies in probabilistic models in population genetics*
- 2011 Bachelor's Thesis: *Measurements for Hurricane Intensity*
- 2011 Bachelor's Thesis: *Vorhersage des Risikos einer Rezidivkrankung von Thrombosepatienten*
English title: risk estimation for recurrence of thrombosis disease

Other Skills

Spoken languages: English and German

Programming languages, Tools and Frameworks: R, Scala, Spark, Hadoop, SQL, NoSQL, GraphX, Java, C, ST, C++, \LaTeX , SAS, SPSS, Mathematica, Python, VBA, ...

Hobbies

Music (Piano)

Hiking

Sailing

Running (Halfmarathon)