



Uli Niemann, PhD

Data Scientist & Postdoctoral Research Scientist

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👤 Google Scholar Profile

Profile

I am a postdoctoral research scientist in the Knowledge Management and Discovery [↗](#) group at the Otto von Guericke University Magdeburg [↗](#). My research focus lies in data science for healthcare. My methodological interests are predictive modeling, explainable AI, data visualization, temporal data representations, and the intersection of machine learning and causal inference.

Education

2015 – 2021

PhD (Dr.-Ing.) in Computer Science

Otto von Guericke University Magdeburg

Thesis title: "Intelligent Assistance for Expert-Driven Subpopulation Discovery in High-Dimensional Timestamped Medical Data" [↗](#)

Grade: *summa cum laude* (with distinction)

2008 – 2014

B.Sc. and M.Sc. in Business Information Systems

Otto von Guericke University Magdeburg

Professional Experience

06.2014 – present

Research Associate

Otto von Guericke University Magdeburg

- Chair "Knowledge Management & Discovery" (06-2014 – 08-2015, 09-2017 – Present)
- Chair "Visualization" (07-2016 – 08-2017)

Developed data science solutions for health data:

- Representations of static high-dimensional data,
- Modeling of treatment effects,
- Quantifications and compact visualizations of characteristic features of subpopulations.

Evaluated on real epidemiological, clinical and experimental study data.

09.2015 – 07.2016

Data Scientist

Thorsis Technologies GmbH [↗](#)

Developed a data-driven diabetic foot ulcer detection system for "smart" shoe insoles equipped with pressure and temperature sensors

Teaching

Data Science with R (seminar) [↗](#)

Master level | Winter semester (WS) 2018/19, summer semester (SS) 2020, SS 2021

IT in Organizations (exercise class)

Bachelor level | In German | WS 2021/22, WS 2020/21, WS 2019/20, WS 2018/19, WS 2017/18

Data Mining I - Introduction to Data Mining (exercise class)

Master level | Teaching & coordination of exercise classes | SS 2021, SS 2020, SS 2019

Visual Analytics (exercise class)

Master level | SS 2018, SS 2017

Computer Aided Diagnosis & Therapy (exercise class)

Bachelor level | In German | WS 2016/17

Supervision of student team projects and seminar papers

Bachelor and master level | since 2015

Awards

- 2021 **Doctoral Award as Best Doctoral Student 2021 of the Faculty of Computer Science**
Otto von Guericke University Magdeburg
- 2020 **Nomination Teaching Award** [↗](#)
Otto von Guericke University Magdeburg
- 2019 **3. Place "Dirk Bartz Prize for Visual Computing in Medicine"** [↗](#)
Eurographics Association
Together with Bernhard Preim, Shiva Alemzadeh, Till Ittermann, Paul Klemm, and Myra Spiliopoulou
- 2017 **Congress Travel Scholarship**
German Academic Exchange Service
- 2015 **Congress Travel Scholarship**
German Academic Exchange Service
- 2014 **Student Research Award**
Faculty of Computer Science, Otto von Guericke University Magdeburg

Certificates

From the Idea to the Application - Applying for Third-Party Funding (*Graduate Academy of Uni Magdeburg, 2022*)

RStudio Certified Instructor for the R packages tidyverse and shiny [↗](#) (*RStudio, 2020*)

Taking the Lead - Leadership Competence in Bbusiness and Science (*Graduate Academy of Uni Magdeburg, 2017*)

Skills

Programming

R, SQL, Java, Python, MATLAB, HTML, CSS, TeX, Git

Software

Photoshop, Illustrator, Inkscape, MS Office

Languages

German

Mother tongue

English

Highly proficient in speaking and writing

Spanish

Basic words and phrases only

French

Basic words and phrases only

Scientific Publications

- 2020 **Gender-Specific Differences in Patients With Chronic Tinnitus – Baseline Characteristics and Treatment Effects.** [↗](#)
Frontiers in Neuroscience
Uli Niemann, Benjamin Boecking, Petra Brueggemann, Birgit Mazurek, and Myra Spiliopoulou.
- 2020 **Tinnitus-related distress after multimodal treatment can be characterized using a key subset of baseline variables** [↗](#)
PLOS ONE
Uli Niemann, Benjamin Boecking, Petra Brueggemann, Wilhelm Mebus, Birgit Mazurek, and Myra Spiliopoulou
- 2020 **Development and internal validation of a depression severity prediction model for tinnitus patients based on questionnaire re-sponses and socio-demographics** [↗](#)
Scientific Reports
Uli Niemann, Petra Brueggemann, Benjamin Boecking, Birgit Mazurek, and Myra Spiliopoulou

- 2020 **Phenotyping chronic tinnitus patients using self-report questionnaire data: cluster analysis and visual comparison** [↗](#)
Scientific Reports
Uli Niemann, Petra Brueggemann, Benjamin Boecking, Matthias Rose, Myra Spiliopoulou, and Birgit Mazurek
- 2020 **Plantar temperatures in stance position: A comparative study with healthy volunteers and diabetes patients diagnosed with sensoric neuropathy** [↗](#)
EBioMedicine
Uli Niemann, Myra Spiliopoulou, Jan Malanowski, Juliane Kellersmann, Thorsten Szczepanski, Silke Klose, Eirini Dedonaki, Isabell Walter, Antao Ming, and Peter R. Mertens
- 2018 **Rupture Status Classification of Intracranial Aneurysms Using Morphological Parameters** [↗](#)
IEEE Computer-Based Medical Systems
Uli Niemann, Philipp Berg, Annika Niemann, Oliver Beuing, Bernhard Preim, Myra Spiliopoulou, and Sylvia Saalfeld
- 2017 **Combining Subgroup Discovery and Clustering to Identify Diverse Subpopulations in Cohort Study Data** [↗](#)
Computer-Based Medical Systems
Uli Niemann, Myra Spiliopoulou, Bernhard Preim, Till Ittermann, and Henry Völzke
- 2015 **Can we classify the participants of a longitudinal epidemiological study from their previous evolution?** [↗](#)
Computer-Based Medical Systems
Uli Niemann, Tommy Hielscher, Myra Spiliopoulou, Henry Völzke, and Jens-Peter Kühn.
- 2014 **Interactive Medical Miner: Interactively exploring subpopulations in epidemiological datasets** [↗](#)
Expert Systems with Applications
Uli Niemann, Henry Völzke, Jens-Peter Kühn, and Myra Spiliopoulou
- 39 peer-reviewed journal and conference publications incl. 15 as first author**
Please view the complete publication list at my Google Scholar profile [↗](#).

References

Prof. Dr. Myra Spiliopoulou, Full professor, Otto von Guericke University Magdeburg
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Prof. Dr.-Ing. Bernhard Preim, Full professor, Otto von Guericke University Magdeburg
{first name}@isg.cs.uni-magdeburg.de