

Uli Niemann

Research Assistant

Curriculum Vitae

August 2020

📍 Knowledge Management & Discovery Lab
Department of Technical & Business Information Systems
Otto von Guericke University Magdeburg, 39106 Magdeburg, Germany

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Education

Apr. 2015 - Present	PhD candidate	Otto von Guericke University Magdeburg
	➤ Topic: Analysis of Patient Evolution based on disease progression.	
Oct. 2012 - May 2014	MSc, Business Information Systems	Otto von Guericke University Magdeburg
	➤ Final grade: 1.4.	
	➤ Thesis title: "The Potential of High-Dimensional Clustering for Subpopulation Discovery in Epidemiological Datasets".	
Oct. 2008 - Sep. 2012	BSc, Business Information Systems	Otto von Guericke University Magdeburg
	➤ Thesis title: "Identification of Differently Perfused Tumor Regions by Means of Density-Based Clustering Algorithms on Contrast-Enhanced Perfusion MRT Image Data of the Breast".	

Research Positions

Sep. 2017 - Present	Research Assistant	Otto von Guericke University Magdeburg
	Knowledge Management & Discovery Lab, Faculty of Computer Science	
Jul. 2016 - Aug. 2017	Research Assistant	Otto von Guericke University Magdeburg
	Visualization Lab, Faculty of Computer Science	
Sep. 2015 - Jul. 2016	Software Developer	ifak system GmbH
Jun. 2014 - Aug. 2015	Research Assistant	Otto von Guericke University Magdeburg
	Knowledge Management & Discovery Lab, Faculty of Computer Science	
Mar. 2013 - Mai. 2014	Student Assistant	Otto von Guericke University Magdeburg
	Knowledge Management & Discovery Lab, Faculty of Computer Science	
Oct. 2012 - Sep. 2013	Student Assistant	Otto von Guericke University Magdeburg
	Visualization Lab, Faculty of Computer Science	

Teaching Experience

- [Data Mining I - Introduction to Data Mining](#): summer term 2019
- [Data Science with R](#): winter term 2018/19, summer term 2020
- [IT in Organizations](#): winter terms 2017/18, 2018/19, 2019/20
- [Visual Analytics](#): summer terms 2017, 2018
- [Computer-Supported Diagnosis & Therapy](#): winter term 2016/17
- Supervision of multiple student team projects and seminar papers since 2015.

Awards & Scholarships

2019	Third prize in the "Dirk Bartz Prize for Visual Computing in Medicine 2019" competition Eurographics
2017	Conference talk travel scholarship German Academic Exchange Service
2015	Conference talk travel scholarship German Academic Exchange Service
2014	Student Research Award Faculty of Computer Science, Otto von Guericke University Magdeburg

Scientific Publications

1. Niemann, U, B Boecking, P Brueggemann, B Mazurek, and M Spiliopoulou (2020). Gender-Specific Differences in Patients With Chronic Tinnitus—Baseline Characteristics and Treatment Effects. *Frontiers in Neuroscience* **14**, 487.
2. Niemann, U, B Boecking, P Brueggemann, W Mebus, B Mazurek, and M Spiliopoulou (Jan. 2020). Tinnitus-related distress after multimodal treatment can be characterized using a key subset of baseline variables. *PLOS ONE* **15**(1), 1–18.
3. Niemann, U, M Spiliopoulou, J Malanowski, J Kellersmann, T Szczepanski, S Klose, E Dedonaki, I Walter, A Ming, and PR Mertens (2020). Plantar temperatures in stance position: A comparative study with healthy volunteers and diabetes patients diagnosed with sensoric neuropathy. *EBioMedicine* **54**, 102712.
4. Niemann, U, P Brueggemann, B Boecking, B Mazurek, and M Spiliopoulou (2020). Development and internal validation of a depression severity prediction model for tinnitus patients based on questionnaire responses and socio-demographics. *Scientific Reports* **10**(1), 4664.
5. Niemann, U, P Berg, A Niemann, O Beuing, B Preim, M Spiliopoulou, and S Saalfeld (2018). Rupture Status Classification of Intracranial Aneurysms Using Morphological Parameters. In: *Proc. of the 31th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS)*, pp.48–53. <https://doi.org/10.1109/CBMS.2018.00016>.
6. Niemann, U, M Spiliopoulou, B Preim, T Ittermann, and H Völzke (2017). Combining Subgroup Discovery and Clustering to Identify Diverse Subpopulations in Cohort Study Data. In: *Proc. of the 30th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS)*. IEEE, pp.582–587. <https://doi.org/10.1109/CBMS.2017.15>.
7. Niemann, U, M Spiliopoulou, F Samland, T Szczepanski, J Grützner, A Ming, J Kellersmann, J Malanowski, S Klose, and PR Mertens (2016). Learning Pressure Patterns for Patients with Diabetic Foot Syndrome. In: *Proc. of the 29th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS)*. <https://doi.org/10.1109/CBMS.2016.31>.
8. Niemann, U, M Spiliopoulou, T Szczepanski, F Samland, J Grützner, D Senk, A Ming, J Kellersmann, J Malanowski, S Klose, and PR Mertens (Aug. 2016). Comparative Clustering of Plantar Pressure Distributions in Diabetics with Polyneuropathy May Be Applied to Reveal Inappropriate Biomechanical Stress. *PLoS ONE* **11**(8), 1–12.
9. Niemann, U, T Hielscher, M Spiliopoulou, H Völzke, and JP Kühn (2015). Can we classify the participants of a longitudinal epidemiological study from their previous evolution? In: *Proc. of the 28th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS)*, pp.121–126. <http://dx.doi.org/10.1109/CBMS.2015.12>.
10. Niemann, U, H Völzke, JP Kühn, and M Spiliopoulou (Sept. 2014). Learning and inspecting classification rules from longitudinal epidemiological data to identify predictive features on hepatic steatosis. *Expert Systems with Applications* **41**(11), 5405–5415. <https://dx.doi.org/10.1016/j.eswa.2014.02.040>.
11. Niemann, U, M Spiliopoulou, H Völzke, and JP Kühn (2014). Subpopulation Discovery in Epidemiological Data with Subspace Clustering. *Foundations of Computing and Decision Sciences (FCDS)* **39**(4), 271–300. <https://dx.doi.org/10.2478/fcds-2014-0015>.
12. Niemann, U, M Spiliopoulou, H Völzke, and JP Kühn (2014). Interactive Medical Miner: Interactively Exploring Subpopulations in Epidemiological Datasets. In: *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD) - Demo Track*. Vol. 8726. Lecture Notes in Computer Science. Springer Berlin Heidelberg, pp.460–463. https://dx.doi.org/10.1007/978-3-662-44845-8_35.
13. Spitz, L, U Niemann, O Beuing, B Neyazi, IE Sandalcioglu, B Preim, and S Saalfeld (2020). Combining visual analytics and case-based reasoning for rupture risk assessment of intracranial aneurysms. *International Journal of Computer Assisted Radiology and Surgery*.
14. Preim, B, S Alemzadeh, T Ittermann, P Klemm, U Niemann, and M Spiliopoulou (2019). Visual Analytics for Epidemiological Cohort Studies. In: *Proc. of Eurographics Medical Price*. http://www.vismd.de/lib/exe/fetch.php?media=files:misc:preim_2019_medp.pdf.
15. Alemzadeh, S, U Niemann, T Ittermann, H Völzke, D Schneider, M Spiliopoulou, K Bühler, and B Preim (2019). Visual Analysis of Missing Values in Longitudinal Cohort Study Data. *Computer Graphics Forum*, to appear. <https://doi.org/10.1111/cgf.13662>.
16. Unnikrishnan, V, C Beyer, P Matuszyk, U Niemann, R Pryss, W Schlee, E Ntoutsis, and M Spiliopoulou (2019). Entity-Level Stream Classification: Exploiting Entity Similarity to Label the Future Observations Referring to an Entity. *International Journal of Data Science and Analytics*, 1–15. <https://doi.org/10.1007/s41060-019-00177-1>.
17. Beyer, C, U Niemann, V Unnikrishnan, E Ntoutsis, and M Spiliopoulou (2018). Predicting Document Polarities on a Stream without Reading their Contents. In: *Proc. of the Symposium on Applied Computing (SAC)*. <https://dx.doi.org/10.1145/3167132.3172870>.
18. Multani, P, U Niemann, M Cypko, JP Kühn, H Völzke, S Oeltze-Jafra, and M Spiliopoulou (2018). Building a Bayesian Network to Understand the Interplay of Variables in an Epidemiological Population-Based Study. In: *Proc. of the 31th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS)*, pp.88–93. <https://doi.org/10.1109/CBMS.2018.00023>.

19. Ravindran, R, U Niemann, S Klose, I Walter, A Ming, P Mertens, and M Spiliopoulou (2018). Transformation of Temperature Timeseries into Features that Characterize Patients with Diabetic Autonomic Nerve Disorder. In: *Proc. of the 31th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS)*, pp.65–70. <https://doi.org/10.1109/CBMS.2018.00019>.
20. Dandage, S, J Huber, A Janki, U Niemann, R Pryss, M Reichert, S Harrison, M Vessala, W Schlee, T Probst, and M Spiliopoulou (2018). Patient Empowerment Through Summarization of Discussion Threads on Treatments in a Patient Self-help Forum. In: *Proc. of Precision Medicine Powered by pHHealth and Connected Health*. Ed. by N Maglaveras, I Chouvarda, and P de Carvalho. Springer Singapore, pp.229–233. https://doi.org/10.1007/978-981-10-7419-6_38.
21. Hielscher, T, U Niemann, B Preim, H Völzke, T Ittermann, and M Spiliopoulou (2018). A Framework for Expert-Driven Subpopulation Discovery and Evaluation Using Subspace Clustering for Epidemiological Data. *Expert Systems with Applications* **113**, 147–160. <https://doi.org/10.1016/j.eswa.2018.07.003>.
22. Nie, K, S Glaßer, U Niemann, G Mistelbauer, and B Preim (2017). Classification of DCE-MRI Data for Breast Cancer Diagnosis Combining Contrast Agent Dynamics and Texture Features. In: *Bildverarbeitung für die Medizin (BVM)*. Heidelberg: Springer Verlag, pp.325–330. https://dx.doi.org/10.1007/978-3-662-54345-0_73.
23. Schleicher, M, T Ittermann, U Niemann, H Völzke, and M Spiliopoulou (2017). ICE: Interactive Classification Rule Exploration on Epidemiological Data. In: *Proc. of the 30th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS)*, pp.606–611. <https://doi.org/10.1109/CBMS.2017.127>.
24. Alemzadeh, S, T Hielscher, U Niemann, L Cibulski, T Ittermann, H Völzke, M Spiliopoulou, and B Preim (2017). Subpopulation Discovery and Validation in Epidemiological Data. In: *EuroVis Workshop on Visual Analytics (EuroVA)*. Ed. by M Sedlmair and C Tominski. The Eurographics Association. <https://dx.doi.org/10.2312/eurova.20171118>.
25. Alemzadeh, S, U Niemann, T Ittermann, H Völzke, D Schneider, M Spiliopoulou, and B Preim (2017). Visual Analytics of Missing Data in Epidemiological Cohort Studies. In: *Eurographics Workshop on Visual Computing for Biology and Medicine (VCBM)*, pp.43–52. <https://dx.doi.org/10.2312/vcbm.20171236>.
26. Klemm, P, K Lawonn, S Glaßer, U Niemann, K Hegenscheid, H Völzke, and B Preim (2015). 3D Regression Heat Map Analysis of Population Study Data. *IEEE Transactions on Visualization and Computer Graphics (TVCG)* **22**(1), 81–90.
27. Glaßer, S, U Niemann, B Preim, and M Spiliopoulou (2013). Can we distinguish between benign and malignant breast tumors in DCE-MRI by studying a tumor’s most suspect region only? In: *Proc. of the 26th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS)*. IEEE, pp.77–82. <http://dx.doi.org/10.1109/CBMS.2013.6627768>.
28. Glaßer, S, U Niemann, U Preim, B Preim, and M Spiliopoulou (2013). “Classification of Benign and Malignant DCE-MRI Breast Tumors by Analyzing the Most Suspect Region”. German. In: *Bildverarbeitung für die Medizin 2013*. Ed. by HP Meinzer, TM Deserno, H Handels, and T Tolxdorff. Informatik aktuell. Springer Berlin Heidelberg, pp.45–50. http://dx.doi.org/10.1007/978-3-642-36480-8_10.