

# Julius von Rohrscheidt

## Resumé

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### Personal Details

Name Julius von Rohrscheidt  
Date of Birth 21.01.1994  
Place of Birth Warendorf  
Nationality German



### Professional Experience

Mar. 2022 – today **Doctoral Researcher**, *Helmholtz Munich*, Munich, Germany.  
Research on Topological Data Analysis and Topological Machine Learning to improve methods in Biomedical Data Science.

Aug. 2020 – Jan. 2022 **Data Analyst**, *raumobil GmbH*, Karlsruhe, Germany.  
Definition of KPI's for customer behavior measurement, automated reporting in MS Power BI, customer journey analytics, traffic flow prediction, Data Warehouse architecture design and construction, personalized services for mobile app end-users in the domain of mobility.

### Education

Mar. 2022 – today **PhD Candidate: Mathematics**, *Technical University of Munich*, Germany.  
Focus of Interest: Theoretical guarantees for noise-robust Topological Representation Learning.

Mar. 2017 – Mar. 2019 **Studies: Mathematics**, *Ruprecht-Karls Universität Heidelberg*, Germany.  
Qualification: M.Sc. Mathematics;  
Focus of Interest: Algebraic Topology for Singular Spaces, Topological Data Analysis, Machine Learning.  
Title of Thesis: *Bordism, Basic Sets and Intersection Homology*.

Oct. 2012 – Oct. 2016 **Studies: Mathematics**, *Ruprecht-Karls Universität Heidelberg*, Germany.  
Qualification: B.Sc. Mathematics;  
Focus of Interest: Modular Forms, Statistical Data Analysis, Machine Learning.  
Title of Thesis: *Atkin-Lehner-Theorie für Kongruenzuntergruppen*.

Aug. 2004 – Jul. 2012 **Secondary School**, *Max-Born-Gymnasium*, Neckargemünd.  
Qualification: A level

### Publications

Jul. 2023 **Topological Singularity Detection at Multiple Scales**, *J. von Rohrscheidt and B. Rieck*, Proceedings of the 40th International Conference on Machine Learning (ICML), Number 202, pp. 35175-35197, 2023.

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## Project Experience

- Apr. 2019 – Mai 2019   **Text Analysis Project in Python**, *Topic Modeling with Latent Dirichlet Allocation for the classification of Tweets.*
- Mai 2019 – Jul. 2019   **Sports Prediction Project in Python**, *Bayesian Ensemble Modeling for the prediction of tennis match outcomes.*

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## Skills

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| Hard Skills           | Experience in Data Wrangling, Descriptive Statistics, Artificial Neural Networks, Bayesian Inference, Regression, Classification, Clustering, Text Analysis, Text Mining, Data Pipelining, Automated Reporting |
| Programming and Tools | Python (NumPy, Pandas, Matplotlib, Sklearn, xgboost, pymc3, NLTK, Gensim, Keras),<br>Azure Data Factory,<br>Git,<br>SQL                                                                                        |
| Soft Skills           | Problem Solving, Critical Thinking, Creative Thinking, Communication, Collaboration, Active Learning                                                                                                           |
| German                | Native speaker                                                                                                                                                                                                 |
| English               | Very good knowledge, spoken and written.                                                                                                                                                                       |

See <https://nbviewer.jupyter.org/github/julius-vr/> for a collection of projects that use some of the above mentioned tools.

Munich, October 9th, 2023   Julius von Rohrscheidt