

MAXIMILIAN THIESSEN

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Postdoc in machine learning theory at the University of Tübingen

EDUCATION

- TU Wien, Vienna, Austria** (Dr. rer. nat./PhD in Computer Science) 2020 – 2026
Thesis: *Learning in Graphs, Convexity Spaces, and Beyond*
Supervisor: Thomas Gärtner
GPA: 1.0 with distinction
- University of Bonn, Germany** (M.Sc. in Computer Science) 2017 – 2020
GPA: 1.0 with distinction
- University of Bonn, Germany** (B.Sc. in Computer Science) 2014 – 2017
GPA: 1.2

PUBLICATIONS

- [1] Nataly Brukhim, Steve Hanneke, Amirreza Shaeiri, and Maximilian Thiessen^α. Marginal-nonuniform multiclass learning. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2026.
- [2] Marco Bressan, Nataly Brukhim, Nicolò Cesa-Bianchi, Emmanuel Esposito, Yishay Mansour, Shay Moran, and Maximilian Thiessen^α. Generalized adaptive boosting and the geometry of mistakes. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2026.
- [3] Marco Bressan, Nataly Brukhim, Nicolò Cesa-Bianchi, Emmanuel Esposito, Yishay Mansour, Shay Moran, and Maximilian Thiessen^α. Learning conditional averages. In *Conference on Learning Theory (COLT)*, 2026.
- [4] Steve Hanneke, Shay Moran, and Maximilian Thiessen^α. Marginal-nonuniform PAC learnability. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2025.
- [5] Marco Bressan, Nataly Brukhim, Nicolò Cesa-Bianchi, Emmanuel Esposito, Yishay Mansour, Shay Moran, and Maximilian Thiessen^α. A fine-grained characterization of PAC learnability. In *Conference on Learning Theory (COLT)*, 2025.
- [6] Marco Bressan, Nataly Brukhim, Nicolò Cesa-Bianchi, Emmanuel Esposito, Yishay Mansour, Shay Moran, and Maximilian Thiessen^α. Of dice and games: a theory of generalized boosting. In *Conference on Learning Theory (COLT)*, 2025.
- [7] Georgy Sokolov*, Maximilian Thiessen*, Margarita Akhmejanova*, Fabio Vitale, and Francesco Orabona. Self-directed node classification on graphs. In *Conference on Algorithmic Learning Theory (ALT)*, 2025.
- [8] Franka Bause*, Fabian Jogl*, Patrick Indri, Tamara Drucks, David Penz, Nils Kriege, Thomas Gärtner, Pascal Welke, and Maximilian Thiessen. Maximally expressive GNNs for outerplanar graphs. *Transactions on Machine Learning Research (TMLR)*, 2025.
- [9] Stephen Pasteris, Alberto Rumi, Maximilian Thiessen, Shota Saito, Atsushi Miyauchi, Fabio Vitale, and Mark Herbster. Bandits with abstention under expert advice. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2024.
- [10] Marco Bressan, Nicolò Cesa-Bianchi, Emmanuel Esposito, Yishay Mansour, Shay Moran, and Maximilian Thiessen^α. A theory of interpretable approximations. In *Conference on Learning Theory (COLT)*, 2024.
- [11] Marco Bressan, Emmanuel Esposito, and Maximilian Thiessen^α. Efficient algorithms for learning monophonic halfspaces in graphs. In *Conference on Learning Theory (COLT)*, 2024.
- [12] Fabian Jogl, Maximilian Thiessen, and Thomas Gärtner. Expressivity-preserving GNN simulation. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- [13] Pascal Welke*, Maximilian Thiessen*, Fabian Jogl, and Thomas Gärtner. Expectation-complete graph representations with homomorphisms. In *International Conference on Machine Learning (ICML)*, 2023.
- [14] Marco Bressan, Nicolò Cesa-Bianchi, Silvio Lattanzi, Andrea Paudice, and Maximilian Thiessen^α. Active learning of classifiers with label and seed queries. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.

- [15] Maximilian Thiessen and Thomas Gärtner. Online learning of convex sets on graphs. In *Joint European Conference on Machine Learning and Knowledge Discovery in Databases (ECMLPKDD)*, 2022.
- [16] Maximilian Thiessen and Thomas Gärtner. Active learning of convex halfspaces on graphs. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2021.
- [17] Maximilian Thiessen, Luis Quesada, and Kenneth N. Brown. Improving a branch-and-bound approach for the degree-constrained minimum spanning tree problem with LKH. In *International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research (CPAIOR)*, 2020.

* indicates shared first-authorship. ^α indicates alphabetical author order.

EMPLOYMENT

University of Tübingen	2026 – ongoing
Postdoc in the Theory of Machine Learning group (host: Ulrike von Luxburg)	Tübingen, Germany
MPI for Informatics	2026 (Feb – Apr)
Visiting researcher (host: Danupon Nanongkai)	Saarbrücken, Germany
TU Wien	2020 – 2026
University assistant (from 2024 self-funded via an ÖAW DOC fellowship)	Vienna, Austria
Fraunhofer IAIS	2016 – 2020
Research assistant	Sankt Augustin, Germany
T-Systems (Telekom)	2015 – 2016
Java development intern	Bonn, Germany

SCHOLARSHIPS, GRANTS, AND AWARDS

ÖAW DOC fellowship (PhD scholarship of the Austrian Academy of Sciences)	2024 – 2026
Studienstiftung fellowship (German Academic Scholarship Foundation)	2017 – 2020
Top reviewer at NeurIPS (2022, 2023), ICML (2022, 2026), and ECMLPKDD (2023)	
ELIAS mobility program	2026
NeurIPS@Paris meetup travel grant	2024
COLT 2024 travel grant	2024
ELISE/ELLIS mobility program	2024
Best poster at G-Research's ICML poster party	2023
MLSS strong profile & best poster honourable mention	2021
Siemens AI Dependability Assessment Challenge (team prize: most practical result)	2021
Honors Program (interdisciplinary program for top students at Uni Bonn)	2016

VISITS

MPI for Informatics, Saarbrücken	Aug 2025, Jul 2026
LAILA Lab at University of Milan	2022, 2024, 2025, 2026
University College Cork (as M.Sc. student, funded by a UCC stipend)	Aug 2019
University of Nottingham (as M.Sc. student, funded by the Studienstiftung)	Aug – Sep 2018

INVITED TALKS

<i>Learning Conditional Averages</i> , Theoretical Foundations of AI group, TU Munich	2026
<i>Learning Conditional Averages</i> , MPI for Informatics, Saarbrücken	2026
<i>A Fine-Grained Characterization of PAC Learnability</i> , Lancaster University Leipzig	2026
<i>Expressive Power of Graph Neural Networks</i> , CENTAI, Turin	2025

<i>Learning in Graphs, Convexity Spaces, and Beyond</i> (thesis talk), Austrian CS Day	2024
<i>Expectation Complete Graph Representations</i> , graph learning workshop, University of Kassel	2022
<i>Iterative Learning of Halfspaces on Graphs</i> , LAILA Lab, University of Milan	2022
<i>Active Learning of Halfspaces on Graphs</i> , DMML group, University of Geneva	2021

COMMUNITY ACTIVITIES

Organisation

Co-organiser of the session <i>Reflections on XAI</i> at the ELLIS UnConference	2026
Co-founder and co-organiser of <i>Graph Learning on Wednesdays</i> (monthly reading group)	2024 – 2026
Co-organiser of the <i>Mining and Learning with Graphs (MLG) workshop</i> at ECMLPKDD	2022 – 2024
Co-organiser of <i>C'est La Wien</i> (Community Event for Students of Learning Algorithms in Wien)	2023
Session chair of the graph neural network session at ECMLPKDD	2023

Reviewing

<i>Conferences</i>	COLT (2026), ALT (2026–2027), NeurIPS (2021–2026), ICML (2022–2026), ICLR (2024), ECMLPKDD (2022–2025), LoG (2022–2023), LWDA (2022)
<i>Journals</i>	TMLR (2026), IEEE TPAMI (2026), Scientific Reports (2026), IEEE TNNLS (2024), Annals of Combinatorics (2025), Machine Learning (2022–2023), ECMLPKDD journal track (2023)

Volunteering

KinderUni at TU Wien: co-organiser and lecturer in machine learning courses for children	2022
ECMLPKDD student volunteer	2019
Refugees on Rails: mentor at programming meetups for refugees	2016 – 2020

TEACHING AND THESIS SUPERVISION

University of Tübingen

Co-organiser of the <i>Seminar Explainable ML</i>	2026/27
Co-supervision of a bachelor's thesis (Leonie Rämisch)	2026

TU Wien

Co-supervision of 4 master's theses	2021 – 2025
Diogo Ribeiro Braga; Fabian Jögl (two workshop papers, later a NeurIPS paper); Dragos-Andrei Brasoveanu (workshop paper); Bijan Nikkhah	
Supervisor for <i>Machine Learning Algorithms and Applications</i>	2021 – 2024
Supervisor for <i>Seminar on Theoretical Aspects of Machine Learning</i>	2020 – 2024
Co-lecturer for <i>Theoretical Foundations of Machine Learning</i>	2020 – 2024
TA for <i>Introduction to Machine Learning</i>	2023

University of Bonn

TA for <i>Learning with Non-Standard Data</i> and <i>Data Mining</i>	2018 – 2020
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