

Curriculum Vitæ

PERSONAL INFORMATION

Name Franka Bause

Researcher unique identifiers

Google Scholar scholar.google.com/citations?user=UTQIpH8AAAAJ

DBLP dblp.org/pid/234/8688.html

ORCID orcid.org/0000-0003-4202-3692

EDUCATION

- 01/03/2021 – 07/08/2025 **Doktorin der technischen Wissenschaften**, *University of Vienna*.
Computer Science, Topic *Efficient and Expressive Graph Learning*, passed with distinction
- 28/06/2017 – 21/07/2020 **Master of Science**, *TU Dortmund University*.
Computer Science, Minor subject *Business and Economics*, passed with honours
- 01/10/2013 – 27/06/2017 **Bachelor of Science**, *TU Dortmund University*.
Computer Science, Minor subject *Theoretical Medicine*

WORK EXPERIENCE

- 01/02/2026 – ongoing **Postdoctoral Researcher**, *CISPA Helmholtz Center for Information Security*.
Relational Machine Learning Lab
- 01/09/2020 – 31/01/2026 **Scientific Project Staff**, *University of Vienna*.
Research Group Data Mining and Machine Learning,
Project *Algorithmic Data Science for Computational Drug Discovery*
(09/10/2023–28/02/2025) Project *Structured Data Learning with General Similarities*
- 01/10/2018 – 30/06/2020 **Research Assistant**, *TU Dortmund University*.
Chair 11 - Algorithm Engineering
- 01/10/2014 – 30/09/2018 **Tutor**, *TU Dortmund University*.
Preliminary course *Computer Science*

AWARDS

- 2025 Award of Excellence – National Prize for the Best Dissertations.
- 2025 "Best of the Best"-Award: Publications in highest ranking venues 2024 (Gruppe PræDoc).
- 2023 Best Paper Award at the 20th International Workshop on Mining and Learning with Graphs.
- 2021 Hans-Uhde-Prize for outstanding thesis in engineering.

ORGANIZING ACTIVITIES

- 2025 22nd International Workshop on Mining and Learning with Graphs, Workshop at ECML PKDD 2025
- 2024 21st International Workshop on Mining and Learning with Graphs, Workshop at ECML PKDD 2024
- 2024 Graph Learning, Social at ICML 2024
- 2023 C'Est La Wien 2023, Workshop

REVIEWING ACTIVITIES

Conferences and Workshops

NeurIPS 2025/2023, ECML 2024, ICML 2024/2023, MLG@ECMLPKDD 2023, SISAP 2021, S+SSPR 2020

Journals

Data Mining and Knowledge Discovery, Machine Learning

TEACHING ACTIVITIES

Tutor, *University of Vienna*, Supervision of student projects and theses.

09/12/2025 **Lecture**, *University of Vienna*, Redundancy in Graph Neural Networks.

10/12/2024 **Lecture**, *University of Vienna*, Redundancy in Graph Neural Networks.

11/06/2024 **Lecture**, *University of Vienna*, The Graph Edit Distance.

07/06/2023 **Lecture**, *University of Vienna*, Lower Bounds for the Graph Edit Distance.

14/06/2022 **Lecture**, *University of Vienna*, Searching in Graph Databases.

10/2014 – 09/2018 **Tutor**, *TU Dortmund University*, Preliminary course *Computer Science*.

PERSONAL INTERESTS

Running and occasional local races

Volunteering for Team Vegan.at, VCM, and Mammutmarsch

Reading and book reviewing

Speed puzzling (incl. national championship participation)

PUBLICATIONS

Journal Publications

- 2025 Franka Bause*, Fabian Jögl*, Patrick Indri, Tamara Drucks, David Penz, Nils M. Kriege, Thomas Gärtner, Pascal Welke, and Maximilian Thiessen. **Maximally Expressive GNNs for Outerplanar Graphs**. *Transactions on Machine Learning Research*, 2025.
- 2022 Franka Bause, Erich Schubert, and Nils M. Kriege. **EmbAssi: Embedding Assignment Costs for Similarity Search in Large Graph Databases**. In *Data Min Knowl Disc* (2022), presented at ECML PKDD, Grenoble, France, 2022.

Conference Papers

- 2025 Lorenz Kummer, Samir Moustafa, Anatol Ehrlich, Franka Bause, Nikolaus Suess, Wilfried N. Gansterer, Nils M. Kriege. **Weisfeiler and Leman Go Gambling: Why Expressive Lottery Tickets Win**. Forty-Second International Conference on Machine Learning, Vancouver, Canada, 2025.
- 2024 Andreas Roth, Franka Bause, Nils M Kriege, and Thomas Liebig. **Preventing Representational Rank Collapse in MPNNs by Splitting the Computational Graph**. The Third Learning on Graphs Conference, virtual, 2024.
- 2024 Franka Bause*, Christian Permann*, and Nils M. Kriege. **Approximating the Graph Edit Distance with Compact Neighborhood Representations**. ECML PKDD, Vilnius, Lithuania, 2024.
- 2024 Franka Bause, Samir Moustafa, Johannes Langguth, Wilfried N. Gansterer, and Nils M. Kriege. **On the Two Sides of Redundancy in Graph Neural Networks**. ECML PKDD, Vilnius, Lithuania, 2024.
- 2022 Franka Bause and Nils M. Kriege. **Gradual Weisfeiler-Leman: Slow and Steady Wins the Race**. *PMLR 198 Proceedings of Learning on Graphs 2022*, LoG Conference, virtual, 2022.
- 2021 Franka Bause, David B. Blumenthal, Erich Schubert, and Nils M. Kriege. **Metric Indexing for Graph Similarity Search**. *Similarity Search and Applications - 14th International Conference*, Dortmund, Germany, 2021.
- 2019 Nils M. Kriege, Pierre-Louis Giscard, Franka Bause, and Richard C. Wilson. **Computing Optimal Assignments in Linear Time for Approximate Graph Matching**. *IEEE International Conference on Data Mining*, Beijing, China, 2019.

Others

- 2020 Christopher Morris, Nils M. Kriege, Franka Bause, Kristian Kersting, Petra Mutzel, and Marion Neumann. **TUDataset: A collection of benchmark datasets for learning with graphs**. *GRL+*, ICML Workshop, 2020.