

# Matthias Fey

🏠 02.06.1990 in Unna, Deutschland

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🌐 <https://rustyls.github.io>

## Ausbildung

### Doktor der Ingenieurwissenschaften

an der Technischen Universität Dortmund

📅 2017 - 2022

- **Themen:** Geometric Deep Learning & Graph Representation Learning
- **Titel:** On the Power of Neural Message Passing for Learning on Graph-Structured Data
- **Doktorvater:** Priv.-Doz. Dr. Frank Weichert
- Abschluss mit summa cum laude

### M.S. in Informatik an der Technischen Universität Dortmund

📅 2013 - 2017

- **Titel:** Convolutional Neural Networks auf Graphrepräsentationen von Bildern
- Abschluss mit Auszeichnung

### B.S. in Informatik an der Technischen Universität Dortmund

📅 2010 - 2013

- **Titel:** Qualitative Semantiken für DAGs – ein Vergleich von OCF- und CP-Netzwerken

### Abitur am Pestalozzi Gymnasium, Unna

📅 2000 - 2009

## Tätigkeiten

### Gründungs-Ingenieur bei Kumo.ai, San Francisco, California

📅 2022 - *aktuell*

### Wissenschaftlicher Mitarbeiter

an der Technischen Universität Dortmund

📅 2017 - 2021

- **SFB 876, Project A6:** Resource-efficient Graph Mining
- **Lehrkraft:** Mensch-Maschine-Interaktion

### Software-Ingenieur bei Comline, Dortmund

📅 2013 - 2017

### Zivildienst am Katharinen Hospital, Unna

📅 2009 - 2010

## Forschungsaufenthalte

### Stanford University

im SNAP-Lab mit Jure Leskovec, Stanford, California

📅 Feb 2020 - Mar 2020

## Auszeichnungen

### Dissertationspreis der Alumni, Dortmund

📅 2022

## Veröffentlichungen

- Christopher Morris, Yaron Lipman, Haggai Maron, Bastian Rieck, Nils M. Kriege, Martin Grohe, **Matthias Fey** and Karsten Borgwardt: Weisfeiler and Leman go Machine Learning: The Story so far. In: *CoRR*, *abs/2112.09992* 📅 2021
- Matthias Fey**, Jan Eric Lenssen, Frank Weichert and Jure Leskovec: GN-NAutoScale: Scalable And Expressive Graph Neural Networks via Historical Embeddings. In: *International Conference on Machine Learning (ICML)*. 📅 2021
- Weihua Hu, **Matthias Fey**, Hongyu Ren, Maho Nakata, Yuxiao Dong and Jure Leskovec: OGB-LSC: Large-Scale Challenge for Machine Learning on Graphs. In: *NeurIPS: Datasets and Benchmarks Track*. 📅 2021
- Christopher Morris, **Matthias Fey**, Nils M. Kriege: The Power of the Weisfeiler-Leman Algorithm for Machine Learning with Graphs. In: *International Joint Conference on Artificial Intelligence (IJCAI) — Survey Track*. 📅 2021
- Matthias Fey\***, Jan-Gin Yuen\* and Frank Weichert: Hierarchical Inter-Message Passing for Learning on Molecular Graphs. In: *ICML Workshop on Graph Representation Learning and Beyond (GRL+)*. 📅 2020
- Marian Kleineberg, **Matthias Fey** and Frank Weichert: Adversarial Generation of Continuous Implicit Shape Representations. In: *Eurographics*. 📅 2020
- Weihua Hu, **Matthias Fey**, Marinka Zitnik, Yuxiao Dong, Hongyu Ren, Bowen Liu, Michele Catasta and Jure Leskovec: Open Graph Benchmark: Datasets for Machine Learning on Graphs. In: *Advances in Neural Information Processing Systems (NeurIPS) (spotlight)*. 📅 2020
- Matthias Fey**, Jan Eric Lenssen, Christopher Morris, Jonathan Masci and Nils M. Kriege: Deep Graph Matching Consensus. In: *International Conference on Learning Representations (ICLR)*. 📅 2020
- Matthias Fey**: Just Jump: Dynamic Neighborhood Aggregation in Graph Neural Networks. In: *ICLR Workshop on Representation Learning on Graphs and Manifolds (RLGM)*. 📅 2019
- Matthias Fey** and Jan Eric Lenssen: Fast Graph Representation Learning with PyTorch Geometric. In: *ICLR Workshop on Representation Learning on Graphs and Manifolds (RLGM) (contributed talk)*. 📅 2019
- Christopher Morris, Martin Ritzert, **Matthias Fey**, William L. Hamilton, Jan Eric Lenssen, Gaurav Rattan and Martin Grohe: Weisfeiler and Leman Go Neural: Higher-Order Graph Neural Networks. In: *Conference on Artificial Intelligence (AAAI)*. 📅 2019
- Jan Eric Lenssen, **Matthias Fey** and Pascal Libuschewski: Group Equivariant Capsule Networks. In: *Advances in Neural Information Processing Systems (NeurIPS)*. 📅 2018
- Nils M. Kriege, **Matthias Fey**, Denis Fisseler, Petra Mutzel and Frank Weichert: Recognizing Cuneiform Signs Using Graph-Based Methods. In: *SDM Workshop on Cost-Sensitive Learning (COST)*. 📅 2018
- Matthias Fey\***, Jan Eric Lenssen\*, Frank Weichert and Heinrich Müller: SplineCNN: Fast Geometric Deep Learning with Continuous B-Spline Kernels. In: *Computer Vision and Pattern Recognition (CVPR)*. 📅 2018
- Christian Eichhorn, **Matthias Fey**, Gabriele Kern-Isberner. CP- and OCF-networks – A Comparison. In *Fuzzy Sets and Systems, Volume 298: Special Issue on Graded Logical Approaches and Their Applications*. 📅 2016