# Christopher Morris

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**Nationality:** German/British

## Areas of Specialization

Machine Learning with Graphs (Graph Kernels, Graph Neural Networks), Algorithmic Data Science, Graph Algorithms, Algorithm Engineering

## Current Position

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|---|---|
| **2015–present** | *PhD Student/Research Associate*, TU Dortmund University, Dortmund |
| **1/2018–3/2018** | *Research stay at Stanford University*, staying with Jure Leskovec |

## Education

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|---|---|
| **1997–2007** | University Entrance Qualification, Erzbischöfliches St.-Angela-Gymnasium, Wipperfürth |
| **2008–2012** | B. Sc. in Computer Science, TU Dortmund University |
| **2012–2015** | M. Sc. in Computer Science, TU Dortmund University, Final Grade: 1.0 (best possible grade) |

## Publications

### Conference Papers

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|---|---|
| **2019** | Christopher Morris, Martin Ritzert, Matthias Fey, William L. Hamilton, Jan Eric Lenssen, Gaurav Rattan, Martin Grohe<br>*Weisfeiler and Leman Go Neural: Higher-order Graph Neural Networks*,<br>AAAI Conference on Artificial Intelligence (AAAI) 2019 |
| **2018** | Rex Ying, Jiaxuan You, Christopher Morris, Xiang Ren, William L. Hamilton, Jure Leskovec<br>*Hierarchical Graph Representation Learning with Differentiable Pooling*,<br>Neural Information Processing Systems (NIPS) 2018, spotlight presentation, and KDD Deep Learning Day 2018 |

Nils M. Kriege, Christopher Morris, Anja Rey, Christian Sohler,
*A Property Testing Framework for the Theoretical Expressivity of Graph Kernels*,
International Joint Conference on Artificial Intelligence (IJCAI) 2018

**2017**   Christopher Morris, Kristian Kersting, Petra Mutzel,
*Glocalized Weisfeiler-Lehman Graph Kernels: Global-Local Feature Maps of Graphs*,
IEEE International Conference on Data Mining (ICDM) 2017, *Full paper*

Christopher Morris, Nils M. Kriege,
*Recent Advances in Kernel-Based Graph Classification*,
European Conference on Machine Learning & Principles and Practice of Knowledge Discovery in Databases (ECML PKDD) 2017

**2016**   Christopher Morris, Nils M. Kriege, Kristian Kersting, Petra Mutzel,
*Faster Kernels for Graphs with Continuous Attributes via Hashing*,
IEEE International Conference on Data Mining (ICDM) 2016

### Journal Articles

**2017**   Fritz Bökler, Mathias Ehrgott, Christopher Morris, Petra Mutzel,
*Output-sensitive Complexity of Multiobjective Combinatorial Optimization*,
Journal of Multicriteria Decision Analysis, 2017

**2017**   Nils M. Kriege, Marion Neumann, Christopher Morris, Kristian Kersting, Petra Mutzel,
*A Unifying View of Explicit and Implicit Feature Maps for Structured Data: Systematic Studies of Graph Kernels*,
*In submission*

## Teaching

Supervised eight bachelor and master thesis

**WS 2017/18**   Seminar *Algorithm Engineering*

**SS 2017**   Seminar *Algorithm Engineering*

**WS 2016/17**   Student project group *Algorithm Engineering for Graph Data Mining*
Seminar *Algorithms Unplugged*

**SS 2016**   Seminar *Algorithm Engineering*
Seminar *Graph Mining*

**WS 2015/16**

Seminar *Algorithm Engineering*

**As a student**  Programming tutorials for engineering students,
Teaching assistant for a course on theoretical computer science

## Service to the Profession

Reviewer for ISAAC 2018, ESA 2018, WALCOM 2017
Member of the appeal commission for the professorship "Data Mining" (2017)

## Computational Skills

Python, C++, LaTeX, Scikit-learn, NumPy, TensorFlow, PyTorch

## Referees

Prof. Petra Mutzel
Chair of Algorithm Engineering,
Department of Computer Science,
TU Dortmund University
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Prof. Kristian Kersting
Machine Learning Group,
Department of Computer Science,
TU Darmstadt
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