

KARL STELZNER

Machine Learning Researcher

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🔗 ml-research.github.io/people/kstelzner/

📄 github.com/stelzner

EDUCATION

PhD Student

Advisor: Kristian Kersting

Machine Learning Lab, TU Darmstadt

Nov. 2017 - now

Research Visit

Research collaboration with Adam Kosiorek and Yee Whye Teh

OxCSML Lab, University of Oxford

Sep. 2019 - Oct. 2019

MSc Computer Science

GPA: 1.3 (1.0 is the best possible)

Studied abroad at Butler University, Indianapolis in 2014/15.

TU Dortmund

Oct. 2013 - Oct. 2017

BSc Computer Science

GPA: 1.4 (1.0 is the best possible)

Completed first year classes while in high school from 2008-2011.

TU Dortmund

Oct. 2011 - Sep. 2013

EXPERIENCE

Applied Scientist Intern

Researched incremental learning methods for large scale text classification.

Amazon Alexa AI, Seattle (virtual)

June 2020 - Sep. 2020

Research Assistant

Administrated compute cluster for machine learning research.

Developed custom software for authentication, monitoring, and job management.

AI Lab, TU Dortmund

2016 - 2017

Student Software Engineer

Developed and administrated web applications at local fibre provider.

Stadtwerke Schwerte

Mar. 2009 - Dec. 2011

SELECTED PUBLICATIONS

Robert Peharz, Steven Lang, Antonio Vergari, **Karl Stelzner**, Alejandro Molina, Martin Trapp, Guy Van den Broeck, Kristian Kersting, Zoubin Ghahramani. Einsum Networks: Fast and Scalable Learning of Tractable Probabilistic Circuits. In **ICML 2020**.

Karl Stelzner, Kristian Kersting, Adam R. Kosiorek. Generative Adversarial Set Transformers. In: *Workshop on Object-Oriented Learning at ICML 2020*.

Jannik Kossen*, **Karl Stelzner***, Marcel Hussing, Class Voelcker, Kristian Kersting. Structured Object-Aware Physics Prediction for Video Modeling and Planning. In **ICLR 2020**. (* equal contribution)

Karl Stelzner, Robert Peharz, Kristian Kersting. Faster Attend-Infer-Repeat with Tractable Probabilistic Models. In **ICML 2019**. Also in: *Workshop on Tractable Probabilistic Models at ICML 2019*, awarded best paper award.

Robert Peharz, Antonio Vergari, **Karl Stelzner**, Alejandro Molina, Xiaoting Shao, Martin Trapp, Kristian Kersting, Zoubin Ghahramani. Random Sum-Product Networks: a Simple but Effective Approach to Probabilistic Deep Learning. In **UAI 2019**.

AWARDS AND HONORS

Best Paper Award from the <i>Workshop on Tractable Probabilistic Models at ICML</i> .	2019
Deutschlandstipendium (German National Scholarship)	2011 - 2014
Placed 614 out of 40698 at the Google Code Jam programming competition	2020

TEACHING

Teaching assistant for the following classes:

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| • <i>Foundations of Theoretical Computer Science</i> | 2013 |
| • <i>Probabilistic Graphical Models</i> | 2017, 2018 |
| • <i>Introduction to Artificial Intelligence</i> | 2018, 2019, 2020 |
| • <i>Statistical Machine Learning</i> | 2020 |

Supervised 3 BSc and 5 MSc theses, including:

- Jannik Kossen: Modelling Videos of Physically Interacting Objects.
Now a PhD student with Tom Rainforth and Yarin Gal at the University of Oxford.
- Claas Voelcker: Unsupervised Object Detection and Sequence Modeling for Control.
Now a PhD student at the University of Toronto and the Vector Institute.
- Marcel Husing: Object-Aware State Representation Learning.
Now a PhD student at the University of Pennsylvania.
- Johannes Czech: Deep Reinforcement Learning for Crazyhouse.
Now a PhD student at TU Darmstadt.

REVIEWING

Served as reviewer at:

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| • <i>International Conference on Learning Representations (ICLR)</i> | 2021 |
| • <i>Advances in Neural Information Processing Systems (NeurIPS)</i> | 2020 |
| • <i>International Conference on Machine Learning (ICML)</i> (emergency reviewer) | 2020 |
| • <i>International Joint Conference on Artificial Intelligence (IJCAI)</i> (emergency reviewer) | 2020 |