adamk@robots.ox.ac.uk
akosiorek.github.io

Adam R. Kosiorek

Education

DPhil in Information Engineering   **University of Oxford**
Advisors: Ingmar Posner, Yee Whye Teh   *10.2016 - 10.2019 (expected)*
Google Deepmind Scholarship

M.Sc. in Computational Science & Engineering   **Technical University of Munich**
Advisor: Patrick van der Smagt   *10.2014 - 09.2016*
Thesis: *"Representation Learning for Arm Movement Data"*
GPA: 1.2 (1.0 is the highest possible)

B.Sc. in Robotics   **Warsaw University of Technology**
Advisor: Barbara Siemiątkowska   *10.2010 - 02.2014*
Thesis: *"3D Point Cloud Classification with the Bag of Words method"*
Summa Cum Laude GPA: 4.75/5.0

Experience

Research Intern   **Google Brain, Toronto**
Research on Capsule Networks advised by Geoffrey E. Hinton   *03.2019 - 06.2019*

Research Intern   **Google Deepmind, London**
Research on Generative Models advised by Danilo J. Rezende   *06.2018 - 10.2018*

Research Assistant   **Technical University of Munich**
Projects in High Performance Computing with Nils Zander & Tino Bog
and Semantic SLAM for Oculus RIFT advised by Federico Tombari   *11.2014 - 09.2016*

Software Engineering Intern   **Bloomberg, London**
Implementation of a framework for anomaly detection in financial data   *07.2015 - 10.2015*

Research Engineer   **Samsung Electronics, Warsaw**
Research on bag of words & deep learning for image classification   *06.2013 - 07.2014*

Junior Software Engineer   **IBM, Warsaw**
Web service development in Java EE   *01.2013 - 06.2013*

Photographer   **Edytor sp. z.o.o., Olsztyn**
Documenting day-to-day events for a local newspaper   *05.2010 - 09.2010*

Honors and Awards

Google DeepMind PhD Scholarship	**2016 - 2019**
DAAD Scholarship for Master Studies in Germany	**2014 - 2016**
University President Scholarship for Academic Achievements	**2010 - 2013**
Highest GPA from all 1st, 2nd and 3rd year undergraduate students	**2010 - 2013**

Pre-Prints / Under Review

Adam R. Kosiorek, Sara Sabour, Yee Whye Teh and Geoffrey E. Hinton, "Stacked Capsule Autoencoders", *arXiv:1906.06818* 2019.

Fabian B. Fuchs, Oliver Groth, **Adam R. Kosiorek**, Alex Bewley, Markus Wulfmeier, Andrea Vedaldi and Ingmar Posner, "Neural Stethoscopes: Unifying Analytic, Auxiliary and Adversarial Network Probing", *arXiv:1806.05502* 2018.

Peer-Reviewed Conference Papers

[5] Tuan Anh Le*, **Adam R. Kosiorek***, N. Siddharth, Yee Whye Teh, and Frank Wood. "Revisiting Reweighted Wake-Sleep". In: *Uncertainty in Artificial Intelligence*. 2019.

[4] Juho Lee, Yoonho Lee, Jungtaek Kim, **Adam R. Kosiorek**, Seungjin Choi, and Yee Whye Teh. "Set Transformer: A Framework for Attention-based Permutation-Invariant Neural Networks". In: *International Conference on Machine Learning*. 2019.

[3] **Adam R. Kosiorek**, Hyunjik Kim, Ingmar Posner, and Yee Whye Teh. "Sequential Attend, Infer, Repeat: Generative Modelling of Moving Objects". In: *Advances in Neural Information Processing Systems*. 2018.

[2] Tom Rainforth, **Adam R. Kosiorek**, Tuan Anh Le, Chris J. Maddison, Maximilian Igl, Frank Wood, and Yee Whye Teh. "Tighter Variational Bounds are Not Necessarily Better". In: *International Conference on Machine Learning*. 2018.

[1] **Adam R. Kosiorek**, Alex Bewley, and Ingmar Posner. "Hierarchical Attentive Recurrent Tracking". In: *Advances in Neural Information Processing Systems*. 2017.

* equal contribution

Peer-Reviewed Workshop Papers

Neil Dhir*, **Adam R. Kosiorek*** and Ingmar Posner, "Bayesian Delay Embeddings for Dynamical Systems". *NIPS Timeseries Workshop*, 2017.

Invited Talks

Attention Mechanisms: Knowing Where to Look Improves Visual Reasoning
Graphcore, Bristol, January 2019.

Attention Mechanisms: Knowing Where to Look Improves Visual Reasoning
ReWork Deep Learning Summit, London, September 2018.

Introduction to Variational Autoencoders
OxWASP lecture on machine learning, Oxford, March 2018.

Introduction to Neural Networks
Machine Learning Meetup @ Stylight, Munich, February 2015.

Research Mentoring

Current: Fabian Fuchs (Ph.D.)

Paper Reviewing

Advances in Neural Information Processing Systems (NIPS) 2018, 2019
International Conference on Representation Learning (ICLR) 2018
IEEE Transactions on Image Processing (TIP) 2018
Conference on Robot Learning (CoRL) 2017

Side Projects

Forge   **github.com/akosiorek/forge**
A lightweight tool for managing ML experiments.   *2018 - present*

Research Blog   **akosiorek.github.io**
Explanations of new and old ideas in Machine Learning   *2017 - present*

CMake Build System for BVLC/Caffe   2014