

Andrii Zadaianchuk

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Education

ETH Zürich, Switzerland Ph.D. Student, Max Planck ETH Center for Learning Systems	04.2019 - 04.2023
Universität Tübingen, Germany M.Sc., Graduate Training Centre of Neural Information Processing GPA: 1.1/1.0	10.2016 - 09.2018
Moscow Institute of Physics and Technology, Russia B.Sc., Applied Mathematics and Physics GPA: 4.89/5.0	09.2012 - 08.2016

Experience

Bridging the Gap to Real World Object-Centric Learning / Amazon Significantly improved current state of the art in object-centric learning by combining it with contrastive representation learning. Contributed to initial idea, baselines, experiments, and writing.	05.2022 - 11.2022
Unsupervised Semantic Segmentation with Self-supervised Object-centric Representations / Amazon Explored properties of state-of-the-art self-supervised representations and combined it with unsupervised saliency segmentation methods for object categories discovery and unsupervised semantic segmentation (+12 mIoU on PASCAL VOC).	09.2021 - 02.2022
RL self-supervision with Independently Controllable Subgoals / ETHZ Improved multi-object manipulation task (up to 6 objects rearrangement) by discovering independently controllable components with sparse GNN dynamics model	01.2021 - 07.2021
Self-supervised Visual RL with Object-centric Representations / MPI IS Developed autonomous RL agent that learns SotA policies in visual multi-object rearrangement and pushing tasks without a reward signal by incorporating object-centric representations and attention based goal-conditioned policies	06.2020 - 10.2020
Online Step Size Adaptation for Stochastic Optimization / MPI IS Developed quadratic step-size adaptation method with 10 times less sensitive hyperparameters by using quadratic approximation and proximal point methods	01.2018 - 08.2018

Awards and Leadership

Awarded DAAD scholarship (25/600 applicants) due to clear objectives and academic achievements	08.2016 - 09.2018
Tutored Deep Learning course (with up to 400 students) ETH Zürich, Switzerland	10.2020 - 01.2021
Tutored Introduction in Machine Learning course (with up to 1300 students) ETH Zürich, Switzerland	01.2021 - 05.2021

Publications

Unsupervised Semantic Segmentation with Self-supervised Object-centric Representations

International Conference on Learning Representations, 2023 (spotlight presentation)

Andrii Zadaianchuk, Matthäus Kleindessner, Yi Zhu, Francesco Locatello, Thomas Brox

Bridging the Gap to Real World Object-Centric Learning

International Conference on Learning Representations, 2023

Maximilian Seitzer, Max Horn, **Andrii Zadaianchuk**, Dominik Zietlow, Tianjun Xiao, Carl-Johann Simon-Gabriel, Tong He, Zheng Zhang, Bernhard Schölkopf, Thomas Brox, Francesco Locatello

Self-supervised Reinforcement Learning with Independently Controllable Subgoals

Conference on Robot Learning, 2021

Andrii Zadaianchuk, Georg Martius, Fanny Yang

Self-supervised Visual Reinforcement Learning with Object-centric Representations

International Conference on Learning Representations, 2021 (spotlight presentation)

Andrii Zadaianchuk, Maximilian Seitzer, Georg Martius

Unsupervised Learning of Independently Controllable Dynamic Components

ICML Object-Oriented Learning (OOL): Perception, Representation, and Reasoning Workshop, 2020

Andrii Zadaianchuk, Georg Martius

A New Robotic Dataset for Transferable Dynamics Learning

International Conference on Robotics and Automation, 2020

Diego Alejandro Agudelo-España, **Andrii Zadaianchuk**, Philippe Wenk, Aditya Garg, Joel Akpo, Felix Grimmering, Julian Viereck, Maximilien Naveau, Ludovic Righetti, Georg Martius, Andreas Krause, Bernhard Schölkopf, Stefan Bauer, Manuel Wüthrich

Selection of optimal physical activity classification model using measurements of accelerometer

Information Technologies, 2016, 22(4) : 313-328.

Andrii Zadaianchuk, Mariia Popova, Vadim Strijov