Artyom Gadetsky

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RESEARCH INTERESTS

Unsupervised Learning, Representation Learning, Foundation Models, Probabilistic Modeling, Stochastic Gradient Estimation, Structured Discrete Variables, Monte Carlo Methods, Deep Learning, Machine Learning.

PUBLICATIONS   (***** denotes equal contribution)

CONFERENCES

The Pursuit of Human Labeling: A New Perspective on Unsupervised Learning
Artyom Gadetsky, Maria Brbić
The 37th Conference on Neural Information Processing Systems (NeurIPS), 2023

Leveraging Recursive Gumbel-Max Trick for Approximate Inference in Combinatorial Spaces
Kirill Struminsky*, **Artyom Gadetsky***, Denis Rakitin*, Danil Karpushkin, Dmitry Vetrov
The 35th Conference on Neural Information Processing Systems (NeurIPS), 2021

Low-variance Black-box Gradient Estimates for the Plackett-Luce Distribution (oral)
Artyom Gadetsky*, Kirill Struminsky*, Chris Robinson, Novi Quadrianto, Dmitry Vetrov
In proceedings of the 34th AAAI Conference on Artificial Intelligence (AAAI), 2020

Conditional Generators of Words Definitions (poster session)
Artyom Gadetsky, Ilya Yakubovsky, Dmitry Vetrov
In proceedings of the 56th Annual Meeting of the
Association for Computational Linguistics (ACL), 2018

Conditional Generators of Words Definitions (poster session)
Artyom Gadetsky, Ilya Yakubovsky, Dmitry Vetrov
Best Student Work at DIALOGUE 2018

Conditional Generators of Words Definitions (poster session)
Artyom Gadetsky, Ilya Yakubovsky, Dmitry Vetrov
Presented poster at AINL 2017

WORKSHOPS

Low-variance Gradient Estimates for the Plackett-Luce Distribution (spotlight)
Artyom Gadetsky*, Kirill Struminsky*, Chris Robinson, Novi Quadrianto, Dmitry Vetrov
In proceedings of the Bayesian Deep Learning NeurIPS 2019 Workshop

AWARDS

- The Ilya Segalovich Scholarship 2021
  Description: HSE Computer Science Faculty scholarship for outstanding achievements in study and research
- The Ilya Segalovich Award 2020
  Description: Award for outstanding young researchers in CIS region (highly competitive)
- Increased State Academic Scholarship 2019/2020
  Description: Winner in the scientific research section (receiving during spring semester)
- The Ilya Segalovich Scholarship 2019
  Description: HSE Computer Science Faculty award for outstanding achievements in study and research
- Open HSE Student Research Paper Competition 2018
  Description: Winner (3rd absolute place)
- Increased State Academic Scholarship 2018/2019
  Description: Winner in the scientific research section (receiving during autumn semester)
- DIALOGUE 2018 conference
  Description: Best Student Work for "Conditional Generators of Words Definitions"

RESEARCH EXPERIENCE

MLBio

- Topic: Towards Unsupervised Transfer Learning   Sep 2022 – Present
  - Supervisor: Maria Brbic
  - Description: research on unsupervised and representation learning

BayesGroup

- Topic: Monte Carlo Gradient Estimation for Discrete Latent Variable Models   Jan 2020 – Aug 2022
  - Supervisor: Dmitry Vetrov
  - Description: research on variance reduction techniques
    for structured discrete latent variable models.

BayesGroup & Predictive Analytics Lab @ University of Sussex

- Topic: Variance reduction techniques for Plackett-Luce distribution   Aug 2018 – Jan 2020
  - Supervisors: Dmitry Vetrov, Novi Quadrianto
  - Description: Conducting research on causal inference and
    variance reduction techniques for discrete latent variable models
    with applications in structure learning of Directed Acyclic Graphs (DAGs).

BayesGroup

- Topic: Conditional Generators of Words Definitions   Oct 2016 – Aug 2018
  - Supervisor: Dmitry Vetrov
  - Description: Work proposes conditional language model for word's definitions.
    Conducted experiments show that one particular word embedding contains
    information about most meanings of the corresponding word and that
    particular components of word embeddings can be interpretable.

Graphics and Media Lab

- Topic: Multiple Object Tracking   Jul 2016 – Aug 2016
  - Supervisor: Anton Konushin
  - Description: Research on application of CNNs for tracking people in the crowd

Graphics and Media Lab

- Topic: 2D Scene Parsing with Generative Models   Dec 2015 – Jun 2016
  - Supervisor: Anton Konushin
  - Description: Application of CNN for object classification and object labeling to
    set of synthetic data

Graphics and Media Lab

- Topic: Road Sign Classification   Jul 2015 – Aug 2015
  - Supervisor: Anton Konushin
  - Description: Achieved 98 % accuracy in multiclass road sign classification
    using HOG and SVM

INDUSTRIAL EXPERIENCE

Huawei Research Moscow
Moscow, Russia

- Supervisor: Dmitry Vetrov   Present
  - Description: conducting research on knowledge distillation and domain generalization.

Sberbank-HSE Laboratory
Moscow, Russia

- Supervisor: Evgeny Sokolov   2017 – 2020
  - Description: conducting research on different text generative modeling tasks.

TEACHING EXPERIENCE

- Deep Learning in Biomedicine at EPFL   Present
  Role: Teaching fellow
- Transfer Learning and Meta-Learning at EPFL   Present
  Role: Teaching fellow
- Continuous Optimization course at HSE and MSU   2018 – 2022
  Role: Teaching fellow
- Neurobayesian Methods at HSE, MSU and YSDA   2018 – 2022
  Role: Teaching fellow
- Introduction to Deep Learning at HSE   2018-2021
  Role: Teaching fellow
- Data Analysis course at HSE   2018
  Role: Teaching fellow
- DeepBayes 2019 Summer School   Aug 2018
  Role: Teaching assistant
- DeepBayes 2018 Summer School   Aug 2018
  Role: Teaching assistant
- DeepBayes 2017 Summer School   Aug 2017
  Role: Teaching assistant

	■ Coursera "Bayesian Methods in Machine Learning" course Role: Teaching assistant	2017-2018
	■ "Bayesian Methods in Machine Learning" course at YSDA and CMC MSU Role: Teaching assistant	2017-2018
	■ Machine Learning course at CS HSE Role: Teaching assistant	Sep 2017 – Jul 2018

REVIEWER EXPERIENCE

- ICLR 2024
- NeurIPS 2023
- AAAI 2021
- ACL 2020

OTHER EXPERIENCE

■ Microsoft Research AI Summer School 2018	Jul 2018
■ Visiting scholar at the University of Sussex, UK Description: hosted by Novi Quadrianto	Jul 2019 – Aug 2019
■ Visiting scholar at the University of Sussex, UK Description: hosted by Novi Quadrianto	Nov 2019

TALKS

University of Amsterdam AMLab Seminar (in english) Topic: Leveraging Recursive Gumbel-Max Trick for Approximate Inference in Combinatorial Spaces	Nov 2021
AAAI 2020 conference (in english) Topic: Low-variance Black-box Gradient Estimates for the Plackett-Luce Distribution	Feb 2020
DataFest 2020 (in russian) Topic: Low-variance Black-box Gradient Estimates for the Plackett-Luce Distribution	Oct 2020
DataFest 2018 (in russian) Topic: Conditional Generators of Words Definitions	Apr 2018
DIALOGUE 2018 (in russian) Topic: Word Sense Induction and Definition Modeling	Jun 2018

EDUCATION

École Polytechnique Fédérale de Lausanne
Lausanne, Switzerland

■ Ph.D. in Computer and Communication Sciences • Scientific supervisor: Maria Brbic • Thesis: Towards Unsupervised Transfer Learning	2022 – Present

National Research University Higher School of Economics
Skolkovo Institute of Science and Technology
Moscow, Russia

■ M.S. in Statistical Learning Theory • Degree with honors • GPA: 4.84 / 5	2018 – 2020

National Research University Higher School of Economics
Moscow, Russia

■ B.S. in Computer Science, Machine Learning Major • Degree with honors • GPA: 4.76 / 5	2014 – 2018

NOMINATIONS

- The Ilya Segalovich Award 2019
  Description: Finalist
- Silver Nestling Golden HSE Award 2018
  Description: Finalist
- The Ilya Segalovich Scholarship 2017
  Description: Nominee
- The Ilya Segalovich Scholarship 2016
  Description: Nominee