

Denis Yarats

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ABOUT

I am a PhD student in Machine Learning at New York University and Facebook AI Research. My research interests broadly include Reinforcement Learning, Optimal Control, and Robotics.

EDUCATION

New York University *2018 - Present*
PhD in Computer Science, Courant Institute *New York, NY*
Research in Reinforcement Learning, Optimal Control, and Robotics

Belarusian State University *2010 - 2011*
M.S. in Computer Science and Mathematics *Minsk, Belarus*

Belarusian State University *2005 - 2010*
B.S. in Computer Science and Mathematics *Minsk, Belarus*

WORK EXPERIENCE

Facebook AI Research *2016 - Present*
Research Engineer *New York, NY*

I research in the areas of Reinforcement Learning, Optimal Control, and Robotics.

Quora *2013 - 2016*
Staff ML Engineer *Mountain View, CA*

I led a team of ML engineers at Quora. Our main goal was to develop and deploy ML algorithms that could distribute Quora's knowledge base to our users. My responsibilities were broad in scope, ranging from developing probabilistic models for language understanding, to implementing cutting-edge ranking methods to improve personalization. I provided scalable and performant implementations for various ML algorithms, some of my work was open sourced.

Bing, Microsoft *2011 - 2013*
Software Engineer *Bellevue, WA*

I worked as a ranking and relevance engineer on the search team. During my tenure at Bing, I enhanced performance and accuracy of the entity conflation algorithm by integrating random decision trees. I also improved latency of the data ingestion pipeline by providing highly optimized and distributed implementations of several core algorithms.

Yandex *2011*
Software Engineer *Moscow, Russia*

I focused on building an algorithm to predict car traffic in Moscow, with the goal to improve the city's severe road congestion. I developed a forecasting algorithm based on logistic regression, that leveraged both offline data and real-time signals to reliably predict traffic jams.

PUBLICATIONS

On the adequacy of untuned warmup for adaptive optimization *October 2019*
J. Ma and **D. Yarats**
Submitted to AISTATS 2020

Improving Sample Efficiency in Model-Free Reinforcement Learning from Images *September 2019*
D. Yarats and A. Zhang and I. Kostrikov and B. Amos and J. Pineau and R. Fergus
Submitted to ICLR 2020

The Differentiable Cross-Entropy Method *September 2019*
B. Amos and **D. Yarats**
Submitted to ICLR 2020

Generalized Inner Loop Meta-Learning *September 2019*
E. Grefenstette and B. Amos and **D. Yarats** and
P. M. Htut and A. Molchanov and F. Meier and D. Kiela and K. Cho and S. Chintala
Submitted to ICLR 2020

Hierarchical Decision Making by Generating and Following Natural Language Instruction *June 2019*
H. Hu* and **D. Yarats*** and Q. Gong and Y. Tian and M. Lewis
NeurIPS 2019

Quasi-hyperbolic momentum and Adam for deep learning *October 2018*
J. Ma and **D. Yarats**
ICLR 2019

Hierarchical Text Generation and Planning for Strategic Dialogue *February 2018*
D. Yarats and M. Lewis
ICML 2018

Deal or No Deal? End-to-End Learning for Negotiation Dialogues *June 2017*
M. Lewis and **D. Yarats** and Y. Dauphin and D. Parikh and D. Batra
EMNLP 2017

Convolutional Sequence to Sequence Learning *March 2017*
J. Gehring and M. Auli and D. Grangier and **D. Yarats** and Y. Dauphin
ICML 2017

PRESS COVERAGE

Teaching AI to plan using language in a new open-source strategy game *September 2019*
<https://ai.facebook.com/blog/-teaching-ai-to-plan-using-language-in-a-new-open-source-strategy-game>

Deal or no deal? Training AI bots to negotiate

June 2017

<https://code.facebook.com/posts/1686672014972296/deal-or-no-deal-training-ai-bots-to-negotiate>

A novel approach to neural machine translation

May 2017

<https://code.facebook.com/posts/1978007565818999/a-novel-approach-to-neural-machine-translation>

TEACHING

Introduction to Reinforcement Learning

Lecturer, Belarusian State University

October 2018

Minsk, Belarus

Introduction to Deep Learning

Teaching assistant, Facebook

2016 - 2018

Menlo Park, CA

Discrete Mathematics and Algorithms

Lecturer, Yandex School of Data Analysis

September - November 2011

Minsk, Belarus

TALKS

Hierarchical Text Generation and Planning for Strategic Dialogue

AI Ukraine

October 2018

Kiev, Ukraine

Hierarchical Text Generation and Planning for Strategic Dialogue

ICML 2018

July 2018

Stockholm, Sweden

Hierarchical Text Generation and Planning for Strategic Dialogue

Conversational Intelligence Summer School

July 2018

Moscow, Russia

Convolutional Sequence to Sequence Learning

Treehouse Talk at CLMS, University of Washington

November 2017

Seattle, WA

Convolutional Sequence to Sequence Learning

AI Ukraine

October 2017

Kiev, Ukraine

ACHIEVEMENTS

ACM ICPC World Final

Participant

2011

Orlando, FL

Google Code Jam European Final

Participant

2008

Zurich, Switzerland

SKILLS

PyTorch, Python, C++, CUDA, L^AT_EX