

## Evgeny Lagutin

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### PERSONAL DATA

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### EDUCATION

**Moscow Institute of Physics and Technology** **Aug 2016 - June 2020**  
**B.Sc.** in Applied Mathematics and Physics  
Department of Control and Applied Mathematics  
**Specialization:** Intelligent Data Analysis  
**Basic chair:** Institute for Information Transmission Problem RAS  
**Scientific work:** VK AI Lab at MIPT  
**Thesis:** Investigating text degeneration of Transformer and attention regularization.

**Skolkovo Institute of Science and Technology** **September 2020 - Present**  
**M.Sc.** in Data Science

#### **Courses on Mathematics, CS and Data Science:**

Modern numerical optimization methods, ML, applied linear algebra, functional analysis, stochastic processes, probability theory, statistics, algorithms, computational mathematics, mathematical basics of ML

Average grade: 4.95/5

Average grade in math subjects: 9.3/10

### AREAS OF INTEREST

Deep Learning, Machine Learning and Statistics, Reinforcement Learning, Natural Language Processing

### EXPERIENCE

- **Employer at VK AI Lab, MIPT** **Oktober 2019 - August 2020**  
Research area: Text degeneration of Transformer-based models.
- **Internship at Huawei Noah's Ark, Moscow (NLP) July 2019 - August 2020**  
Research area: Dialog State Tracking, Natural Language Understanding, Zero-and Few-Shot Learning, Domain Adaptation, Dialogue Generation.

### PROJECTS

**Bachelor Thesis (at VK AI Lab): Implicit Unlikelihood Training: Improving Neural Text Generation with Reinforcement Learning**  
**January-June 2020**

Text degeneration is a problem of generating too repetitive text when training generator with standard Maximum Likelihood Estimation due to discrepancy between training and decoding phases called exposure bias. In this work we present a **new method to significantly reduce the number of repetitions** by applying Reinforcement Learning framework to text generation. Besides we compare existing approaches as there were no explicit comparison before. We hope our work will be soon accepted at COLING 2020 conference.

**Academic Project: Research of a new method of adaptive stochastic optimization** **Apr-May 2019**

Completing a range of numerical experiments in order to compare the given adaptive method of stochastic optimization with other well-known methods, such as SGD, Adam, etc. Classical datasets (MNIST, CIFAR10, IMDB) and classical neural networks (Fully-connected, CNN, BiLSTM (+Attention)) were considered. Besides the method allows

to find best learning rate, estimating the Lipsitz constant of the gradient of the loss function.

**RELEVANT  
COURSES**

- Deep Learning in CV (Huawei, MIPT)  
**Oct 2019 - December 2019**
- Deep Learning in NLP (IPavlov lab. MIPT),  
based on Stanford CS224n course

**Feb-May 2019**

**TECHNICAL  
SKILLS**

**Languages :** Python, C++, C,  $\LaTeX$   
**Tools :** Git, **Python libs :** Numpy, PyTorch, Scikit-learn, Pandas, etc.  
**Databases :** MS SQL