

Anton BELY

abel@jhu.edu · avbelyy.github.io

Scholar · GitHub · LinkedIn

EDUCATION

AUG '19 — PRESENT	PhD in Computer Science (NLP) , Johns Hopkins University, U.S.A. Advisors: Benjamin Van Durme (Primary), Vladimir Braverman (Secondary)
SEP '13 — JUN '18	B.Sc. in Informatics and Applied Mathematics , ITMO University, Russia Thesis: Construction and Quality Evaluation of Heterogeneous Hierarchical Topic Models Advisors: Andrey Filchenkov (Primary), Konstantin Vorontsov (Secondary)

RESEARCH INTERESTS

- Similarity search and information retrieval
- Human assisted data collection and curation
- Schema induction and structured text generation

PUBLICATIONS AND PREPRINTS

1. InFillmore: Frame-Guided Language Generation with Bidirectional Context.

Ou, J., Weir, N., Belyy, A., Yu, F., & Van Durme, B. (2021). In *Proceedings of the 10th Conference on Lexical and Computational Semantics (STARSEM)*, pp. 129-142. [\[paper\]](#) [\[poster\]](#) [\[talk\]](#) [\[demo\]](#)

2. Script Induction as Association Rule Mining.

Belyy, A., & Van Durme, B. (2020). In *Proceedings of the 1st Joint Workshop on Narrative Understanding, Storylines, and Events (NUSE)*, pp. 55-62. [\[paper\]](#) [\[talk\]](#) [\[code\]](#)

3. Improved Evaluation Framework for Complex Plagiarism Detection.

Belyy, A., Dubova, M., & Nekrasov, D. (2018). In *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (ACL)*, Vol. 2, pp. 157-162. [\[paper\]](#) [\[poster\]](#) [\[code\]](#)

4. Framework for Russian Plagiarism Detection Using Sentence Embedding Similarity and Negative Sampling.

Belyy, A., & Dubova, M. (2018). In *Proceedings of the 24th International Conference on Computational Linguistics and Intellectual Technologies (Dialogue)*, Issue 17, pp. 96-109. [\[paper\]](#) [\[slides\]](#) [\[code\]](#)

5. Quality Evaluation and Improvement for Hierarchical Topic Modeling.

Belyy, A., Seleznova, M., Sholokhov, A., & Vorontsov, K. (2018). In *Proceedings of the 24th International Conference on Computational Linguistics and Intellectual Technologies (Dialogue)*, Issue 17, pp. 110-123. [\[paper\]](#) [\[slides\]](#)

6. MEMOIR: Multi-class Extreme Classification with Inexact Margin.

Belyy, A., Sholokhov, A. (2018) [\[preprint\]](#)

WORK EXPERIENCE

- SEP '17 — AUG '19 **Senior Data Scientist**, Tochka Bank, Russia
- Anti-money laundering: prediction and scoring models
 - Client communications: dialog intent recognition and exploratory analysis
- SEP '15 — SEP '16 **Software Developer**, VK.com, Russia
- Fraud (anomaly) detection in ads' clicks
 - Classification of trustworthy advertisers
- JUL '15 — SEP '15 **Software Developer Intern**, JetBrains, Russia
- Implementation of a garbage collection algorithm for `dotMemory` profiler

RESEARCH EXPERIENCE

- JUN '21 — AUG '21 **Research Intern**, Microsoft Semantic Machines, U.S.A.
Supervisor: Charles Chen
- Guided K -best selection method for rapid prototyping of complex NLG models
- MAR '18 — JUN '18 **Visiting Student**, Université Grenoble Alpes, France
Supervisors: Massih-Reza Amini, Yury Maximov
- Extreme multi-class classification with Pegasos and MIPS algorithms [\[report\]](#)
- SEP '17 — FEB '18 **Research Assistant**, ITMO University, Russia
Supervisor: Andrey Filchenkov
- Novel evaluation metric for external plagiarism detection [\[paper\]](#)
 - Framework for external plagiarism detection in Russian [\[paper\]](#)
- MAR '17 — AUG '17 **Research Assistant**, Russian Academy of Sciences, Russia
Supervisor: Konstantin Vorontsov
- Hierarchical topic modeling for exploratory search over heterogeneous sources [\[paper\]](#)
 - Topic-model driven exploratory search engine (full-stack implementation) [\[code\]](#)
- JUL '14 — MAR '15 **Research Intern**, Synopsys, Russia
Supervisor: Sergey Yakushkin
- Static memory allocation for micro-controllers using graph k -coloring methods
 - Implementation of three graph coloring algorithms, technical report with results

TEACHING EXPERIENCE

- SPRING 2021 **Intro Algorithms 601.433/633 (Head TA)**, JHU
- SEP '17 — AUG '19 **Natural Language Processing (TA)**, Online
<https://coursera.org/learn/language-processing>

SKILLS AND TOOLS

NATURAL LANGUAGES	Russian (Native Proficiency), English (Bilingual Proficiency), Chinese (Elementary)
PROGRAMMING	Python, C / C++, Haskell, Java, JavaScript, Assembler, *nix shell, *SQL, PHP, HTML
FRAMEWORKS	Research: NumPy, Pandas, ScikitLearn, PyTorch, fairseq, FAISS, nmslib, BigARTM WebDev: TypeScript, Node.JS, Socket.IO, MongoDB, flask, memcache
RESOURCES	Wikidata, FrameNet, VerbNet, CommonCrawl, Annotated Gigaword
DEV TOOLS	Docker, git, LaTeX, (C)Make, JetBrains IDEs