

Anton BELY

anton.bely@gmail.com · avbelyy.github.io

LinkedIn · GitHub · Scholar

EDUCATION

- AUG '19 — MAY '22 **M.Sc.Eng. in Computer Science (NLP)**, Johns Hopkins University, USA
GPA: 4.0. Advisors: Benjamin Van Durme (Primary), Vladimir Braverman (Secondary)
- SEP '13 — MAY '18 **B.Sc. in Informatics and Applied Mathematics**, ITMO University, Russia
GPA: 3.6. Advisors: Andrey Filchenkov (Primary), Konstantin Vorontsov (Secondary)
Thesis: [Construction and Quality Evaluation of Heterogeneous Hierarchical Topic Models](#)
• **Distinguished thesis award** (given to 2 out of approx. 50 undergraduates)

EMPLOYMENT

- JUN '22 — PRESENT **Machine Learning Engineer in Knowledge Platform**, Apple, USA
• Building ML systems for large-scale knowledge extraction from unstructured data feeds
- SEP '19 — MAY '22 **Graduate Research Assistant**, Johns Hopkins University, USA
• **Semantic data mining**: proposed novel ARM-based algorithm for script induction [\[paper\]](#), built [SchemaBlocks](#), Scratch-like annotation interface for complex event scenarios [\[paper\]](#)
• **Knowledge graph completion**: building a human-in-the-loop KG completion system using entity linking, rule learning and data mining over million-scale knowledge graphs
• **Text generation**: built [demo](#) for InFillmore, our FrameNet frame-guided NLG model [\[paper\]](#)
- JUN '21 — AUG '21 **Research Intern in Semantic Machines**, Microsoft Research, USA
• Built guided annotation interface to help label semantic parsing data 35% faster [\[paper\]](#)
- SEP '17 — AUG '19 **Senior Data Scientist in Compliance Risks and AI lab**, Tochka Bank, Russia
• **Risk scoring**: vectorized new data sources for 200K+ bank clients and 50M+ transactions, generated temporal/spatial features using Hadoop/Spark to improve scoring accuracy by 10%
• **Communication analysis**: built intent recognition models to classify 90% customer inquiries
• **Call center planning**: using OR-Tools, automated CC planning and improved accuracy by 10%
• **ML culture**: interviewed and mentored 3 junior ML engineers, designed internal ML guidelines
- MAR '17 — AUG '17 **Machine Learning Engineer**, Antirutina, Russia
• **Tender anomaly detection**: developed clustering algorithms to identify bidding anomalies, allowing to discover bid-rigging behavior on auctions with contract amount exceeding \$3B
• **Precise IE**: designed information extraction pipelines for precise identification of vendor codes, volumes and quantities of goods from unstructured and diverse vendors' price lists
- OCT '15 — OCT '16 **Software Engineer in Ads**, VK.com, Russia
• **URL fraud**: built service to periodically detect malicious URL redirect changes in VK ads
• **Click fraud**: built ML models to detect users that generate fraudulent clicks in VK ad network. Model was deployed semi-automatically and helped recover up to 3% monthly ad revenue
• **Ads search**: launched moderator search interface (incl. full-text search) over 30M+ VK ads
• **Ads scoring**: implemented advertiser ranking for faster moderation of top-10% clients

TEACHING EXPERIENCE

- JAN '21 — MAY '21 **Introduction to Algorithms 601.433/633 (Head TA)**, JHU (100+ students)
• Managed 9 CAs and 1 TA, created homework and exam problems, held weekly office hours
- SEP '17 — AUG '19 **Natural Language Processing (TA)**, Coursera (40,000+ students by Sep '19)
• Answered 200+ students' questions, helped create homework and project assignments

LANGUAGES AND TECHNOLOGIES

LANGUAGES Python (proficient); JavaScript, bash (intermediate); C#, C++, Haskell, x86 assembly (coursework)
TECHNOLOGIES pandas, sklearn, XGBoost, pytorch, faiss, nmslib; Docker, *SQL, MongoDB, Lucene, Hadoop/Spark