

# Anton BELY

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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)  
Research projects: knowledge graph completion, controlled text generation, schema induction
- SEP '13 — MAY '18 **B.Sc. in Informatics and Applied Mathematics**, ITMO University, Russia  
GPA: 3.6. Advisors: Andrey Filchenkov (Primary), Konstantin Vorontsov (Secondary)  
Research projects: plagiarism detection, hierarchical topic modeling  
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 Graphs and AppleBot**, Apple, USA  
• **KG**: I am a founding engineer of the ODKE project, which transforms unstructured Web data into millions of facts every week to continuously improve coverage and freshness of Apple KG. I implemented scalable fact extractors using in-house and OpenAI LLMs, built fact verification model using Spark MLlib, built CI/CD pipelines and oversaw integrating ODKE with Apple KG.  
• **AppleBot**: I use ML, Airflow, Spark and MapReduce to turn petabytes of semi-structured Web data into billion-scale, high-quality datasets used to train in-house Foundational Models.
- JUN '21 — AUG '21 **Research Intern in Semantic Machines**, Microsoft Research, USA  
• Used explainable  $k$ -means to speed up labeling data for program synthesis by 35% [\[paper\]](#)
- SEP '17 — AUG '19 **Machine Learning Engineer in Compliance Risks and AI lab**, Tochka Bank, Russia  
• **Client scoring**: using Hadoop and Spark, enriched internal data for 200K+ bank clients and 50M+ transactions with Web-scraped public data to improve client scoring accuracy by 10%.  
• **Intent recognition**: built ML models to detect intent for the top-90% client questions in chat.  
• **Call center planning**: using ILP, automated CC scheduling while improving accuracy by 10%.
- 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 (advanced); Golang, Scala, JavaScript, SQL, C++, bash (proficient)  
TECHNOLOGIES Airflow, Spark, Iceberg (advanced); XGBoost, PyTorch, faiss, AWS, Docker, K8s (proficient)