DMITRY BERESNEV

ML Engineer & Data Scientist

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SUMMARY

MSc student in Computer Science specializing in AI and Data Science with deep research focus on ML Optimization, LLMs, and Deep Learning. Expertise in developing novel ML models and functional pipelines using PyTorch, with hands-on experience in classical DRL algorithms (DQN, A2C, REINFORCE). Proven track record leading projects from conception to deployment, including an AI-featured EdTech platform serving 200+ active users.
Seeking challenging R&D positions to contribute to state-of-the-art ML and AI solutions.

EDUCATION

MSc in Computer Science

AI & Data Science

2024 — 2026 | Innopolis University

- **Thesis:** New and Efficient Facet-Based Identification methods for Rank-Deficient Simplex-Structured Matrix Factorization [in progress]
- **Supervisors:** Valentin Leplat, Nicolas Gillis
- **Relevant Coursework:** High Dimensional Data Analysis, Linear Optimization, Advanced Statistics, Advanced Machine Learning, Reinforcement Learning

BSc in Computer Science

AI & Data Science

2020 — 2024 | Innopolis University

- **Thesis:** Text plagiarism detection in the field of large language models using reinforcement learning
- **Supervisor:** Armen Beklaryan
- **Relevant Coursework:** Optimization Methods in Machine Learning, Reinforcement Learning, Natural Language Processing, Practical Deep Learning

RESEARCH EXPERIENCE

Huawei: Wireless Data Transmission

Researcher, ML Engineer

2024 — Present | ISP RAS & Innopolis University

- Designing and simulating Deep AI models for wireless distribution of devices to base stations under time and resource constraints for Huawei
- Developing and implementing models on PyTorch, creating training-testing pipeline, and conducting experiments
- **Stack:** PyTorch, Numpy
- **Supervisor:** Aleksandr Beznosikov

Diligent Learning: Prospects and Applications

Researcher, ML Engineer

2024 — Present | MSU AI Center

- Implementing and testing Diligent Learning, a novel approach for fine-tuning LLMs for reasoning problems based on paper From Reasoning to Super-Intelligence: A Search-Theoretic Perspective
- Developing diligent learning pipeline and fine-tuning LLMs in new paradigm
- **Stack:** PyTorch, TRL, Transformers
- **Supervisor:** Petr Anokhin

Applied AlphaEvolve: CAD Reconstruction

Researcher

Summer 2025 | Skoltech Summer School (SMILES-2025)

- Applied OpenEvolve (open-source AlphaEvolve) to CAD reconstruction and combinatorial geometry using LLM-driven evolutionary search
- Achieved optimal ball partition results matching theoretical bounds in dimensions 2–13
- Outperformed zero-shot LLM baselines across multiple complex 3D shapes
- Established comprehensive benchmark pipeline with 7 evaluation metrics
- **Stack:** PyTorch, OpenEvolve, CAD libraries
- **Supervisor:** Petr Anokhin

Text Plagiarism Detection Using DRL

Researcher

2024 | Innopolis University

- Designed novel DRL-based approach for plagiarism detection achieving best MSE of 0.108 on synthetic dataset
- Proposed three architectures based on DQN, A2C, and REINFORCE with best results from REINFORCE model
- **Stack:** PyTorch, Numpy, Pandas
- **Supervisor:** Armen Beklaryan

WORK EXPERIENCE

Innopolis CIPR

ML Developer

2025

- Designed and implemented RAG pipeline over proprietary Angular frontend repositories
- Built indexers: Inverse Index, BallTree with model-generated embeddings, and partially Faiss
- Connected local generative models and designed full pipeline of scraping, embeddings generation, indexing, and retrieving
- Approved quality on gold queries provided by experts
- **Stack:** PyTorch, Docker, FastAPI, Faiss

Gazprom CPS

ML Engineer

2024

- Designed and trained predictive ML model to identify causes of defects in construction facilities, achieving 80% accuracy on proprietary dataset
- Responsible for full working pipeline: data preprocessing, feature engineering, model building and validation
- **Concepts:** Tree-based models, MLP-based models, ensemble methods, Transformers
- **Stack:** PyTorch, Numpy, Scikit-learn, Pandas

Advanced Engineering School IU

ML Developer

2023

- Developed code generation model using transformer-based architecture
- Fine-tuned Gorilla model on proprietary dataset
- Contributed significantly to research
- **Concepts:** LLMs, Transformers, LoRA
- **Stack:** PyTorch, Numpy, Pandas

SELECTED PROJECTS

Accept School

Founder, CEO

2023 — Present

- Led full-stack design of comprehensive EdTech platform combining ML with modern web technologies, currently utilized in educational organizations with approximately 200 active users
- Developed code plagiarism detection system using ML and implemented generative AI for hint suggestions, text and image generation using open-source LLMs
- Defined development and operational processes, engineered backend with FastAPI and MongoDB, built frontend with Next.js
- **Stack:** PyTorch, FastAPI, Next.js, MongoDB, Docker, Apache Kafka

DoWell

ML Developer, Tech Leader

2025

- Designed and implemented RAG architecture for intelligent conversational system simulating expert consultations across professional domains
- Deployed and connected generative models, engineered backend using FastAPI
- **Stack:** PyTorch, FastAPI, Docker

Detecting AI-generated Python Code via ML

Developer

2025

- Achieved 95.9% accuracy with CodeBERT model on synthetic dataset
- Developed efficient AST-based Random Forest achieving 83.5% accuracy with 2ms inference time
- Engineered dataset generation pipeline using 4 LLMs with specialized prompts
- Integrated LIME explainability framework for model interpretation
- **Stack:** PyTorch, Transformers, Tree-sitter, LIME

PyFinder: Python Documentation Search

Developer

2025

- Built Information Retrieval system combining traditional inverted indexing with LLM-powered semantic search
- Performance: F1@1=0.53, nDCG@1=0.83 with LLM embeddings + Ball Tree indexer
- Implemented RAG pipeline with prompt engineering and context retrieval
- **Stack:** PyTorch, sentence-transformers, FastAPI, Next.js

TEACHING EXPERIENCE

Teaching Assistant

Innopolis University

2024 — 2025

Teaching assistant for Introduction to Optimization course for 2nd year bachelor students. Conducting tests and laboratory work.

Teaching Assistant

Yandex Student Camp on Math in AI

July 2024 Innopolis

Designed and provided materials for seminars and homeworks on ‘Optimization Methods in Machine Learning’ course under guidance of Aleksandr Beznosikov

SKILLS

ML & Data Science

PyTorch, TRL, Scikit-learn, PuLP, Numpy, Pandas, JAX

Programming Languages

Python, TypeScript, C/C++, Rust, Java, Haskell

Tools & Platforms

Docker, Git, LaTeX, Postman, Faiss

Web & Databases

FastAPI, Next.js, Astro, PostgreSQL, MongoDB

LANGUAGES

Russian ●●●●●

English ●●●●○