

# ALEKSANDR RAZIN

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## EDUCATION

**ITMO University** | MSc Big Data and Machine Learning | GPA: 4.9/5 2022 – 2024

Thesis: “Enhancing Image Super Resolution through Depth Estimation”

*Researched depth-SR fusion methods; designed and executed experiments and ablation studies*

*Teaching Assistant – Advanced Machine Learning Technologies: led practical sessions for ~30 students*

**Mining University** | BSc Construction and repair of oil and gas pipelines | GPA: 4.4/5 2018 – 2022

Thesis: “Real-time obstacle detection and analysis for robotic exploration”

*Engineered an oil & gas pipeline and LiDAR inspection robot; authored CV software for automated defect detection*

*Teaching Assistant – Experimental Physics: led lab sessions for ~20 students*

## EXPERIENCE

**Startup** | Lead Research Engineer Apr 2025 – Sep 2025

*Secured ~€100K funding; scaled solutions to 3 of the top-5 retailers*

- Built depth estimation software for warehouse transport systems, decreasing emergency incident rates
- Mentored 5 ML engineers from experimentation to deployment; delivered vision analytics to 3 top-5 national retailers

**Huawei Research Center** | Computer vision research engineer Dec 2023 – Apr 2025

*Ranked among the world's top 10 most innovative companies in 2023*

- Developed ISR and generative architectures, outperforming open-source in latency and improving FID by ~10% at 2K
- Simplified latent-diffusion architecture and integrated spatial priors, enhancing high-frequency texture generation
- Led fine-tuning of quantized **Mate-70** checkpoints; designed curriculum learning and loss functions, reducing night-HDR video ghosting and flicker on millions of smartphones
- Designed a weight-merging algorithm for video restoration, improving PSNR by 10% over SOTA on internal and NTIRE benchmarks; presented to research directors

**Huawei Research Center** | Research Intern May 2023 – Sep 2023

*Ranked among the world's top 10 most innovative companies in 2023*

- Achieved >30% ROUGE gain in domain-specific LLM generation via query classification and LoRA-DPO
- Integrated metric-learned visual encoders into internal LLMs, enabling multimodal question answering

**ITMO University** | Deep Learning Engineer Sep 2022 – May 2023

*#153 QS WUR Ranking By Computer Science Subject*

- Utilized knowledge distillation to banknote segmentation models, reducing FLOPs by 20% with no performance loss
- Applied contrastive learning to a SOTA classification backbone for fake-stamp detection, improving F1 by 10%

**Mining University** | Research Assistant Jan 2021 – Dec 2021

*#4 QS WUR Ranking By Engineering Subject*

- Developed obstacle-detection and defect-segmentation software on a LiDAR robot, enabling previously inaccessible inspections and reducing costs by ~€56k+/year

## SELECTED PUBLICATIONS

**Improving question answering in programming domain with pretrained language model fine tuning using structured diverse online forum data**

*Journal Scientific and Technical of Information Technologies, Mechanics and Optics, 2024*

*Gorbatovski, A.V., Razin, A.D., Aliev, A.A., Kovalchuk, S.V.*

*Contribution: led experiments in classification, representation learning, and RL; co-authored paper sections*

**Robot crawler for surveying pipelines and metal structures of complex spatial configuration**

*MDPI Infrastructures, 2022*

*Pshenin, V., Liagova, A., Razin, A., Skorobogatov, A., Komarovsky, M.*

*Contribution: developed 3D detection and segmentation pipelines; co-authored paper sections*

**Program for processing data for the presence of corrosion damage and its detection using a convolutional neural network**

*RU Patent, 2022*

*Pshenin, V., Razin, A., Zakirova G.S.*

*Contribution: designed and executed experiments; developed production-grade software*

## AWARDS

**Kaggle: “OTTO – Multi-Objective Recommender System”, top 10% out of 2,574 teams** 2023

**Grant winner, Russian Student Startup: top 5% out of ~10k teams (~€15k)** 2023

**Prize holder, Russian Olympiad in Phys. & Math. “Star” - Spacecraft track, top 2% of ~8k participants** 2018

## SKILLS

*Python, PyTorch, TensorFlow, JAX, DeepSpeed, vLLM, Diffusers, TRL, ComfyUI, Git, CI/CD, AWS, Airflow*

*Scientific writing, experimental design, collaboration, mentoring, leadership*