

Fedor Rodionov

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SUMMARY

PhD student in Generative AI at KAUST, advised by Prof. Peter Wonka, researching computer vision, geometric reasoning, and generative models. Previously worked in industrial R&D on numerical optimization, large-scale machine learning systems, and high-performance C++ software.

EDUCATION

- **King Abdullah University of Science and Technology (KAUST)** 2024 – Present
PhD in Computer Science (Generative AI); Advisor: Prof. Peter Wonka; GPA: 3.95/4.00
- **Lobachevsky State University of Nizhny Novgorod (UNN)** 2015 – 2021
B.Sc. (2019) and M.Sc. (2021) in Computer Science; GPA: 5.00/5.00
- **Yandex School of Data Analysis (YSDA)** 2019 – 2021
M.Sc.-equivalent program in Machine Learning (ML Developer Track); GPA: 4.83/5.00

PUBLICATIONS

- **FloorplanQA: A Benchmark for Spatial Reasoning in LLMs using Structured Representations:**
Conference: **ICML 2026** (arXiv:2507.07644)
- **Architect-Ant: Editable Automatic Furnishing of Architectural Floorplans:** Preprint: arXiv:2606.10953

EXPERIENCE

- **Huawei R&D - R&D Developer** Dec. 2022 - Aug. 2024
 - Developed advanced features for second-order optimization solvers (FSQP, IPOPT) for constrained nonlinear optimization problems.
 - Implemented and evaluated modern constrained optimization techniques, including warm-start strategies and L-BFGS approximations.
- **X5 Retail Group - Data Analyst** Feb. 2021 - Dec. 2022
 - Developed "A/B Helper", a Python package automating experiment design, parameter selection, and data collection for A/B testing.
 - Built scalable analytics pipelines and dashboards using PySpark, Airflow, and ClickHouse for large-scale retail data.
- **Yandex (Maps & Navigator) - Software Engineer Intern** Jan. 2020 - May. 2020
 - Optimized a C++/Boost.Python road graph processing pipeline, reducing computation time by 6x.
 - Developed production features and bug fixes for Yandex Maps & Navigator on iOS and Android, enhancing UX.

TEACHING

- **KAUST - Team Assistant, Neural Network Design and Training** 2025
- **HSE University - Team Assistant, Python and Data Analysis for ML** 2023-2024

PROFESSIONAL SERVICE

- **Reviewer - ECCV 2026, NeurIPS 2026** 2026

PROJECTS

- **deepworks:** Open-source C++ framework for neural network training and inference.
- **3D City Map:** Large-scale 3D visualization pipeline using Kepler.gl and GeoPandas.

TECHNICAL SKILLS

- **Programming & Infrastructure:** C++, Python, SQL, Docker, AWS, Airflow, Git
- **ML:** PyTorch, HuggingFace, Diffusion Models
- **Research:** Computer Vision, Generative AI, Geometry Processing, Numerical Optimization