

# ALEXANDER NIKOLAEV

3<sup>rd</sup> year BSc student at CMC MSU

📍 Moscow, Russia

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🐙 github.com/alehandreus

## SCHOOL EDUCATION

2009 - 2021

### Moscow gymnasium №1514

Advanced math and programming class

#### Achievements and experience

- Winner of federal math and programming olympiads
- GPA: 5/5, awarded with gold medal for excellent school grades
- Scored 100% (top 1%) in Unified State Exam in math

## UNIVERSITY EDUCATION

2021 - grad. 2025

### Lomonosov Moscow State University (MSU)

Department of Computational Mathematics and Cybernetics (CMC)

Graphics & Media Lab

Specialization in applied mathematics, machine learning and computer vision

#### Achievements and experience

- International Collegiate Programming Contest (ICPC) participant and team coach
- Yandex Cup olympiad participant
- Yandex "Algorithms Training" contest winner
- Top 5% (placed 72th) in Brain Tumor Radiogenomic Classification Kaggle competition
- GPA: 4.90/5

## ADDITIONAL EDUCATION

fall 2023

### Computer Vision

Classification, detection, segmentation, tracking, generative models

Yandex School of Data Analysis

spring 2024

### Bayesian Methods in Deep Learning

Variational Dropout, Normalizing Flows, VAE, Diffusion Models

Yandex School of Data Analysis

spring 2024

### Computer Vision in 3D

Neural Rendering, NeRF, SfM

Yandex School of Data Analysis

spring 2024

### Neural and Inverse Rendering in Vulkan

Implementation of Light Fields, Neural SDFs with CUDA / Vulkan

MSU

## PUBLICATIONS

2023

### Langevin dynamics in stochastic ray tracing: computing the preconditioning matrix according to restrictions and choice of time step

S.V. Ershov, V.A. Frolov, A.Ä. Nikolaev, A.G. Voloboy; KIAM preprints, 2023

doi.org

2023

### Langevin dynamics in stochastic ray tracing: phase space selection and limitations for path variation

S.V. Ershov, V.A. Frolov, A.Ä. Nikolaev, A.G. Voloboy; KIAM preprints, 2023

doi.org

2023

### Langevin dynamics in stochastic ray tracing: computational experiments

S.V. Ershov, V.A. Frolov, A.Ä. Nikolaev, A.G. Voloboy; KIAM preprints, 2023

doi.org

## SKILLS

**Programming experience:** C, C++, Python, Assembly

**Technologies:** PyTorch, OpenCV, Blender, Unreal Engine, OpenGL, OpenMP, Vulkan, Git, Unix

**Languages:** English, German, Russian (native)