



Victoriya KASHTANOVA, PhD

Computer Vision Research Scientist

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📄 [kvict.github.io](https://github.com/kvict)

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Expertise

PROGRAMMING

Python / C ++ /
CUDA / Linux Shell

FRAMEWORKS

Pytorch / TensorFlow / Keras

ML/DL MODELS

NeRF / 3DGS / Diffusion / GAN /
ViT / VAE / ResNet / U-net / DINO
/ SAM / CLIP and more

TOOLS

NerfStudio / SDFStudio / Unity /
Conda / Docker / Git / VR / Numpy
Scikit-learn / OpenCV / Dlib /
AWS / Google Cloud Plat. / Azure

Teaching experience

(Courses for Master students)

Machine Learning

Introduction in Linux and Github

Reinforcement learning

Language

Russian (Native Speaker)

French (Fluent)

English (Fluent)

Hobbies



Work Experience

○ LAY3RS, Paris, France Oct 2023 - Present

R&D Computer Vision Scientist

- > Staying up-to-date with the latest GenAI methods and models.
- > Development of NeRF- and Diffusion- model based solutions for fast real-time 3D modeling of objects and scenes from video and image databases.
- > 3D scene segmentation and editing.
- > Development of a robust pipeline for 3D object from video generation.

○ INRIA d'Université Cote d'Azur, France Mar 2020 – Jun 2023

Data Scientist, Manager of a Research project

in Physics-based Deep Learning applied to Cardiology

- > Development and optimisation of 2 novel DL frameworks for personalised predictions of cardiac electrophysiology dynamics.
- > Presenting the work on major conferences (MIDL, FIMH, VPH, etc.) and workshops (Med NeurIPS, SynS & ML ICML, IMLH ICML etc) in the field.
- > Co-leading a team participating in the Cross-Modality Domain Adaptation challenge for MICCAI 2021 Conf. (6th place, [results were published in the Medical Image Analysis journal](#)).

○ GE Healthcare, France Jul 2019 – Dec 2019

Research Intern in Women's Health Applied Research team

- > Analysis of SOTA of DL models for medical image synthesis.
- > Creation, implementation, optimisation of a DL model architecture based on specific features imposed by medical system limitations.
- > Performance evaluation of the developed model in quantitative and qualitative terms.

Education

○ **PhD Degree in Physics-Based Deep Learning (Computer Science)**

INRIA & Université Cote d'Azur, France

SA: [Maxime Sermesant](#) (Epione, Inria) and [Patrick Gallinari](#) (MLIA, Sorbonne)

○ **Engineering Degree (Major in Data Science)**

École Nationale des Ponts (ENPC), France

École Normale Supérieure, France (M2 MVA courses)

○ **Master of Science (with honours) in Data Science**

○ **Bachelor's degree (with honours) in Applied Mathematics and Informatics**

Novosibirsk State University, Russia

First author publications

- > *Simultaneous data assimilation and cardiac Electrophysiology model correction using differentiable physics and Deep Learning.* **Interface Focus, 2023.**
- > *Physics-based Deep Learning framework to learn and forecast cardiac electrophysiology dynamics.* **Workshop SynS & ML ICML, 2023.**
- > *Deep Learning for Model Correction in Cardiac Electrophysiological Imaging.* **MIDL, 2022.**
- > And more.