

Tetiana Martyniuk

COMPUTER VISION RESEARCHER, PHD STUDENT

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Education

École des Mines de Paris - Université PSL

Paris, France

PH.D. IN COMPUTER SCIENCE, CIFRE (INRIA & VALEO.AI, ASTRA-VISION GROUP)

Dec. 2023 - present

- **Thesis topic:** *Conditional generation of egocentric 3D driving scenes*, supervised by [Dr. Raoul de Charette](#) and [Dr. Renaud Marlet](#).

Ukrainian Catholic University

Lviv, Ukraine

M.Sc. IN COMPUTER SCIENCE WITH SPECIALIZATION IN DATA SCIENCE

Sep. 2017 - Feb. 2019

- **Thesis:** *Multi-task learning for image restoration*.

Ivan Franko National University of Lviv

Lviv, Ukraine

B.Sc. IN MATHEMATICS WITH SPECIALIZATION IN GEOMETRY & TOPOLOGY (WITH HONORS)

Sep. 2013 - Jun. 2017

- **Thesis:** *S-dimension versus Hölder dimension in Peano continua*, presented at the International Conference "Geometry and topology in Odesa – 2016" and Scientific Conference dedicated to 100th anniversary of K. M. Fishman and M. K. Fage in Chernivtsi, Ukraine (2015).

Selected publications & Patents

LiDPM: Rethinking Point Diffusion for LiDAR Scene Completion

IV 2025

Tetiana Martyniuk, Gilles Puy, Alexandre Boulch, Renaud Marlet, Raoul de Charette

DAD-3DHeads: A Large-scale Dense, Accurate and Diverse Dataset for 3D Head Alignment from a Single Image

CVPR 2022

Tetiana Martyniuk, Orest Kupyn, Yana Kurlyak, Igor Krasheniyi, Jiří Matas, Viktoriia Sharmanska

FEAR: Fast, Efficient, Accurate and Robust Visual Tracker

ECCV 2022

Vasyl Borsuk, Roman Vei, Orest Kupyn, Tetiana Martyniuk, Igor Krasheniyi, Jiří Matas

DeblurGAN-v2: Deblurring (Orders-of-Magnitude) Faster and Better

ICCV 2019

Orest Kupyn, Tetiana Martyniuk, Junru Wu, Zhangyang Wang

Information compression method and apparatus

US12198391B2, 2025

Vladyslav Zavadskyi, Tetiana Martyniuk

Kuratowski monoids of n-topological spaces

Topol. Algebra Appl.,
2018

Taras Banakh, Ostap Chervak, Tetiana Martyniuk, Maksym Pylypovych, Alex Ravsky, Markiyan Simkiv

Professional experience

Valeo

Paris, France

RESEARCHER (PHD CONTRACT)

Dec. 2023 - present

- Conducting research on PhD thesis *Conditional 3D scene generation* in [Astra-vision](#) group.

INRIA Paris

Paris, France

R&D ENGINEER (PRE-PHD CONTRACT)

Jun. 2023 - Nov 2023

- Conducting research on *Conditional 3D scene generation* within a pre-PhD contract in [Astra-vision](#) group.

Piñata Farms

Lviv, Ukraine / remote

COMPUTER VISION RESEARCH ENGINEER

Dec. 2020 - Sep. 2022

- Led the "3D Heads" research project.
 - Responsibilities:** data collection and labeling management, data preprocessing, model development, benchmarking, integration into core pipelines.
 - Outcome:** transition to 3D-based pipelines, improved model robustness, and foundation for new technologies such as Face Reenactment.
- **Information Retrieval** project: user behaviour data analysis, search and retrieval experiments, video content auto-tagging pipelines.

NeoRender (now Zibra AI)

Kyiv, Ukraine

DEEP LEARNING RESEARCHER

Oct. 2019 - Dec. 2020

- Developed **deep learning models for efficient and generic 3D object representations**, focusing on neural *signed distance fields*.
- Developed one-shot *mesh and pointcloud decomposition* models.
- Developed differentiable and non-differentiable pipelines for *mesh-to-SDF prediction*.

Machine Learning Lab, Ukrainian Catholic University

Lviv, Ukraine

RESEARCHER

Feb. 2019 - May 2023

- **Selected projects:** 3D Dense Head Alignment from a Single Image, Visual Object Tracking, Single Image Blind Motion Deblurring via GANs.
- Mentored for Bachelor's theses at the Faculty of Applied Sciences, UCU.

Let's Enhance

COMPUTER VISION RESEARCHER

Kyiv, Ukraine

Aug. 2018 - Sep. 2019

- **Image and video restoration via GANs:** lead *super-resolution, color and tone enhancement, noise removal* research projects.

ELEKS

DATA SCIENTIST

Lviv, Ukraine

Dec. 2017 - Jul. 2018

- **Selected projects:** optical character recognition, anomaly detection, knowledge graph creation, NLP projects (legal and finance domains).

Teaching

Faculty of Applied Sciences, Ukrainian Catholic University

Lviv, Ukraine / remote

ASSISTANT, DEPARTMENT OF COMPUTER SCIENCES AND IT | TEACHING ASSISTANT

2016 - 2018, 2020 - present

- **Lecturer**, Computer Vision specialization
 - 2022-present: Introduction to Deep Learning in Computer Vision,
 - 2020-2021: Generative Modeling & Image Restoration.
- **TA** (2016 - 2018): Algorithms and Data Structures, Linear Algebra, Probability and Statistics.

Lviv Polytechnic University & Yuriy Fedkovych Chernivtsi National University

Ukraine / remote

GUEST LECTURER

2023 - present

- "Introduction to Deep Learning in Computer Vision" lectures.

Lviv Physics and Mathematics Lyceum

Lviv, Ukraine

CO-ORGANIZER OF THE MATHEMATICAL OLYMPIAD WORKSHOP FOR PUPILS

Jul. 2013 - Mar. 2017

- Trainer for Mathematical Olympiads, each year resulting in having a candidate for International Mathematical Olympiad from Ukraine.

Awards & Honors

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| 2017-2019 | Scholarships for M.Sc. studies , granted by Grammarly and Ukrainian Catholic University |
| 2016 | 3rd Award , National Student Olympiad in Mathematics |
| 2013-2014 | Scholarship of the President of Ukraine , 1 out of 35 students in the country |
| 2013 | 1st Prize , All-Ukrainian competition-defense of research papers of the Minor Academy of Sciences of Ukraine |
| 2010-2013 | 3rd Award , National Mathematical Olympiad |

Certifications & Schools

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| 2024 | ELLIS Winter School on Foundation Models. | ELLIS & UvA (the Netherlands) |
| 2017-2018 | Lviv Data Science Summer School , specialization in NLP(2017) and CV (2018). | UCU (Ukraine) |
| 2018 | Lviv Data Science Winter School , specialization in Time Series & Forecasting. | UCU (Ukraine) & CTU (Czech Republic) |
| 2017 | Winter School in Abstract Analysis , section "Set Theory&Topology". | Hejnice (Czech Republic) |
| 2016-2017 | International Joint Certificate Program "Selected Topics in Computational Mathematics". | Lviv University (Ukraine) & JMU (Germany) |
| 2014, 2016 | Summer School "Algebra, Topology and Analysis". | Polyanytsya (Ukraine), Odesa (Ukraine) |

Professional Services & Affiliations

Conference Reviewer: CVPR 2023, ECCV 2024, IEEE IV 2025.

Associate Unit Member, ELLIS Associate Unit in Lviv.