

EDUCATION

MSc in Computer Science

University of Bonn, Germany
Oct 2022 – Sep 2024

BSc in Physics

Moscow State University, Russia
Sep 2018 – Aug 2022

EMPLOYMENT

Research Assistant

ETH Zürich

Supervisors: Dr. Danda Pani Paudel, Dr. Thomas Probst

Apr 2023 – Present

- Developed a NeRF-based 3D reconstruction of the human hand from 60 images; evaluated on ~500 sequences from the Interhand3.6m dataset
- Implemented a point-mesh distance finding algorithm on the GPU; reduced the calculation time from 5s to 0.3s compared to the CPU baseline
- Introduced perceptual loss (LPIPS) to enhance the visual quality; improved PSNR score by 14% over MSE loss

Research assistant

Moscow State University

Supervisors: Prof. Sergei Popov, Prof. Roberto Turolla

Nov 2019 – Feb 2022

- Developed a dark matter detection model using satellite images of neutron stars; processed 3.1 TB of data collected over 4 years
- Utilized Very Deep Super-Resolution (VDSR) network to upscale low-resolution satellite images; improved SSIM metric by 11% over the baseline bicubic interpolation
- Implemented a background subtraction model based on the R-CNN network; achieved a 3x speedup compared to the GrabCut algorithm

PUBLICATIONS

- Toward Constraining Axions with Polarimetric Observations of the Isolated Neutron Star RX J1856.5–3754
[A. Zhuravlev](#), R. Taverna, R. Turolla; *The Astrophysical Journal* (2022)
- Photon-axion mixing in thermal emission of isolated neutron stars
[A. Zhuravlev](#), S. Popov, M. Pshirkov; *Physics Letters B* (2021)

PROJECTS

- Lab in Computer Vision

Apr 2023 – Sep 2023

[Report](#), [Code](#)

Developed a human pose prediction model composed of convolutional layers and Squeeze-and-Excitation blocks; reduced the Mean Per Joint Position Error (MPJPE) by 2.9% over the baseline transformer model

- Seminar in Computer Vision

Sep 2023

[Report](#), [Slides](#)

Presented a paper on 3D panoptic segmentation with TensorRF backend; compared with 4 subsequent works

- HackaTUM Hackathon

Nov 2022

1st place ([Project Page](#))

Collected a dataset of 57 3D scans with a microwave detector; trained a ResNet-based model to recognize 3 types of recyclable waste with 73% accuracy

- TUM ML4Earth Hackathon

Oct 2022

1st place ([Project Page](#), [Overview Notebook](#))

Trained a 5-layer MLP-based network to predict soybean yields in 190 US counties over 5 years; reached 11% test set error