KONRAD KARANOWSKI

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on request

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https://github.com/konrad-karanowski

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https://scholar.google.com/citations?user=_Cn3jmsAAAAJ&hl=en

EDUCATION

02.2023 - 07.2024 **Wroclaw University of Technology, Master's Degree in Artificial Intelligence, Prof. Maciej Zięba**

- Master's thesis: "Diffusion Probabilistic Models For Denoising Micrographs in Cryogenic Electron Microscopy", written in collaboration with researchers from ETH, recognized as the best thesis defended at the faculty in 2024.
- Honored as the best graduate at the faculty in 2024, out of 200 students.
- Member of genwro.AI, research group under the supervision of Prof. Maciej Zięba.
- Vice-president of Biomedical AI, student association focused on AI in medicine, under the guidance of Dr Martin Tabakov.

10.2019 - 01.2023 **Wroclaw University of Technology, Bachelor's Degree in Applied Computer Science**

- Graduated among the top 5% of the students at the faculty.
- Member of Prof. Maciej Zięba's research group.
- Worked on the project "Hypernetworks for few-shot learning" in collaboration with researchers from the Group of Machine Learning Research of the Jagiellonian University (Krakow, Poland).
- Member of "Robocik", student association focused on developing autonomous underwater vehicles (AUVs).
- Vice-president of Biomedical AI, student association focused on AI in medicine, under the guidance of Dr Martin Tabakov.

08.2022 **University of Southern Denmark Summer School 2022, Deep Learning, Prof. Richard Röttger**

- Final Grade: 12/12 (highest in the Danish grading system).

PROFESSIONAL EXPERIENCE

07.2024 - present **Tooploox/eBay, Machine Learning Researcher**

- Conducting research on object recontextualization using diffusion models, with a particular focus on virtual try-on applications.
- Co-authored the paper “Hypernetworks for Image Recontextualization”, accepted to the NeurIPS UniReps Workshop 2024.
- Working with models and technologies including Stable Diffusion, IP Adapter, hypernetworks, and ControlNet.

01.2023 - 07.2024 **Biocam, Machine Learning Specialist**

- Researched generative medical data augmentation with diffusion models for capsule endoscopy images.
- Collaborated with medical specialists to align research with clinical needs.
- Created a data-augmentation pipeline capable of improving image classifier’s performance.

08.2021 - 02.2023 **CLARIN-PL, Machine Learning Researcher**

- Researched natural language processing for subjective tasks with a focus on incorporating user context.
- Contributed to the development of an automatic speech recognition system for the Polish language.
- Published 5 scientific papers.
- Worked with models such as Transformers, Whisper, and normalizing flows.

09.2020 - 01.2021 **esportsLABgg, Junior Data Scientist (Internship)**

- Worked on image classification and object detection methods for video games.
- Developed and maintained code in Python.

SKILLS

Technical Skills Python, Pandas, SQL, Matplotlib, Plotly, Jupyter Notebook, PyTorch, PyTorch Lightning, Scikit-Learn, Numpy, OpenCV, Transformers, Diffusers, Git, DVC, Hydra, Wandb, Linux

Other skills Teamwork, Self-organization, Scientific method, Data visualization

Language skills Polish (Native), English (Professional working proficiency)

AWARDS AND SCHOLARSHIPS

Ministry of Science and Higher Education of Poland

- Scholarship of the Minister of Science and Higher Education for Significant Achievements, 2024

Wroclaw University of Technology

- Best graduate student at the Faculty of Information and Communication Technology, 2024
- Best master thesis defended at the Faculty of Information and Communication Technology, 2024
- Rector's scholarship for best 10% of students, 2019/20, 2020/21, 2021/22, 2022/23, 2023/24
- Rector's prize, 2022/23
- Scholarship from the fund's own Wroclaw University of Technology, winter 2021/22, summer 2022/23, winter 2023/24, summer 2023/24

PUBLICATIONS

Konrad Karanowski*, Piotr Miłkowski*, Patryk Wielopolski, Jan Kocoń, Przemysław Kazienko, and Maciej Zięba (2023). *Modeling Uncertainty in Personalized Emotion Prediction with Normalizing Flows*. 2023 IEEE International Conference on Data Mining Workshops (ICDMW), 757-766. [* - denotes equal contribution]

Kamil Kanclerz, **Konrad Karanowski**, Julita Bielaniewicz, Marcin Gruza, Piotr Miłkowski, Jan Kocoń and Przemysław Kazienko. *PALS: Personalized Active Learning for Subjective Tasks in NLP* Conference on Empirical Methods in Natural Language Processing (2023).

Marcin Sendera, Marcin Przewięźlikowski, Jan Miksa, Mateusz Rajski, **Konrad Karanowski**, Maciej Zięba, Jacek Tabor and Przemysław Spurek. *The general framework for few-shot learning by kernel HyperNetworks* Machine Vision and Applications 34 (2023): 1-16.

Konrad Karanowski*, Adam R. Chłopowiec*, Tomasz Skrzypczak, Mateusz Grzesiuk, Adrian B. Chłopowiec and Martin Tabakov. *Counteracting Data Bias and Class Imbalance—Towards a Useful and Reliable Retinal Disease Recognition System* Diagnostics 13 (2023): n. pag. [* - denotes equal contribution]

Przemysław Kazienko, Julita Bielaniewicz, Marcin Gruza, Kamil Kanclerz, **Konrad Karanowski**, Piotr Miłkowski and Jan Kocoń. *Human-centered neural reasoning for subjective content processing: Hate speech, emotions, and humor*. Inf. Fusion 94 (2023): 43-65.

Martin Tabakov, Krzysztof Galus, Artur Zawisza, Adam R. Chłopowiec, Adrian B. Chłopowiec and **Konrad Karanowski**. *Synthetic Data Generation for Morphological Analyses of Histopathology Images with Deep Learning Models* Vietnam. J. Comput. Sci. 10 (2023): 373-389.

Maciej Zamorski, Michał Stypułkowski, **Konrad Karanowski**, Tomasz Trzciński and Maciej Zięba (2022). *Continual learning on 3D point clouds with random compressed rehearsal*. Comput. Vis. Image Underst., 228, 103621.

Marcin Sendera, Marcin Przewięźlikowski, **Konrad Karanowski**, Maciej Zięba, Jacek Tabor and Przemysław Spurek. *HyperShot: Few-Shot Learning by Kernel HyperNetworks* 2023 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) (2022): 2468-2477. DOI: 10.1109/WACV56688.2023.00250

Julita Bielaniewicz, Kamil Kanclerz, Piotr Miłkowski, Marcin Gruza, **Konrad Karanowski**, Przemysław Kazienko and Jan Kocoń. *Deep-SHEEP: Sense of Humor Extraction from Embeddings in the Personalized Context* 2022 IEEE International Conference on Data Mining Workshops (ICDMW) (2022): 967-974.

Martin Tabakov, **Konrad Karanowski**, Adam R. Chłopowiec, Adrian B. Chłopowiec and Mikolaj Kasperek. *Data Augmentation for Morphological Analysis of Histopathological Images Using Deep Learning* International Conference on Computational Collective Intelligence(2022).

Kamil Kanclerz, Marcin Gruza, **Konrad Karanowski**, Julita Bielaniewicz, Piotr Miłkowski, Jan Kocoń and Przemysław Kazienko. *What If Ground Truth Is Subjective? Personalized Deep Neural Hate Speech Detection* NLPERSPECTIVES (2022).

Artur Zawisza, Martin Tabakov, **Konrad Karanowski** and Krzysztof Galus. *Morphological Analysis of Histopathological Images Using Deep Learning* International Conference on Computational Collective Intelligence (2021).