

Work Experience

- 3/2023 – **PostDoc**, *IDEAS NCBR*,
Present Research in Generative Models and Continual Learning.
- 10/2021 – **Assistant**, *Warsaw University of Technology*,
Present Research in Generative Models and Continual Learning and teaching.
- summer 2021 and 2022 **Applied Scientist Internship**, *Alexa Text-To-Speech Science Team*, Amazon,
Research in neural text-to-speech technology..
- 3-6/2021 **Visiting Researcher**, *Vrije Universiteit Amsterdam*,
Research in generative models under supervision of J.M.Tomczak.
- 4-5/2021 **Teacher**, *STS Fryderyk Chopin*,
Computer Science and Physics teacher on board of transatlantic sailing cruise.
- 12/2015–
05/2021 **Data Scientist**, *Analytics & Data Management Practice*,
Hewlett Packard Enterprise/ DXC Technology.
Development of machine learning based solution in practical Data Science projects.

Education

- 2018–2023 **PhD studies**, *Warsaw University of Technology, Faculty of Electronics and Information Technology*, Computer Science.
Research in different areas of machine learning mostly related to Generative Models, including generative models for continual learning and their application at CERN.
- 2017–2018 **Master of Science**, *Warsaw University of Technology*, Computer Science,
Graduated with honors, Thesis topic:
Machine Learning Methods for Fast Simulation in ALICE Experiment LHC CERN.
- 2013–2017 **Engineer**, *Warsaw University of Technology*, Computer Science, Thesis topic:
Efficient density based Clustering.
- 2014–2015 **Engineer (Student exchange)**, *Institut National des Sciences Appliquées de Lyon*,
Computer Science, Research project: *Programming a 256-Cored platform*.

Languages

- English **Advanced – C1**
French **Intermediate – B1**
Italian **Basics – A1 (Can order a pizza)**

Other experience

- 2017–Present **ALICE CERN**, *Member of the scientific collaboration at LHC CERN*.
- 7/2019 **Deep Learning Summer School**, *Participant*.

Selected first-authored publications

- 07/2023 **Learning Data Representations with Joint Diffusion Models**, *ECML PKDD 2023*.
Full text: arxiv
- 06/2023 **Diffusion-based accent modelling in speech synthesis**, *Interspeech 2023*.
Full text: Amazon Science
- 12/2022 **On Analyzing Generative and Denoising Capabilities of Diffusion-based Deep Generative Models**, *NeurIPS 2022*, Full text: arxiv.
- 09/2022 **Automatic Evaluation of Speaker Similarity**, *Interspeech 2022*,
Full text: Amazon Science.
- 06/2022 **Multiband VAE: Latent Space Alignment for Knowledge Consolidation in Continual Learning**, *IJCAI-ECAI 2022*, Full text: arxiv.
- 06/2021 **BinPlay: A Binary Latent Autoencoder for Generative Replay Continual Learning**, *IJCNN 2021*, Full text: arxiv.
- 12/2020 **End-to-end Sinkhorn Autoencoder with Noise Generator**, *IEEE Access*, Full text.
- 12/2018 **Generative Models for Fast Cluster Simulations in the TPC for the ALICE Experiment**, *EPJ Web of Science*.

Grants

- 2013–Present **Primary investigator**, *Young PW*, Learning Data Representations with Diffusion Models.
- 2021–Present **Co-investigator**, *NCN OPUS 22*, Generative View on Continual Learning.
- 2019–2023 **Primary investigator**, *NCN Preludium 16*, Tracking ALICE – Fast Simulation Machine Learning for the ALICE CERN.
- 2020–2023 **Co-investigator**, *POB - HEP*, Implementation of machine learning particle identification methods in High Energy Physics.
- 2019–2021 **Co-investigator**, *POB - AI*, Development of continual learning methods with generative models.
- 2017–2021 **Co-investigator**, *NCN Sonata*, The development of machine learning methods for big data quality monitoring in frames of the ALICE experiment at LHC CERN.

Selected public oral speeches

- 6/2022 **Multiband VAE**, *IJCAI-ECAI 2022*, Vienna.
- 11/2021 **Generative view on Continual Learning**, *MLinPL*, Online.
Best oral presentation award
- 09/2020 **Generative models for calorimeters response simulation - from GANs through VAE to e2e SAE**, *4th Inter-experiment Machine Learning Workshop*, Online.
- 05/2019 **Using Machine Learning techniques for Data Quality Monitoring in CMS and ALICE**, *7th Large Hadron Collider Physics*, Puebla, Mexico.
- 07/2018 **Machine Learning methods Fast Cluster Simulations**, *The Platform for Advanced Scientific Computing*, Basel, Switzerland.
- 06/2018 **Using Machine Learning Methods for Improving Data Quality in the ALICE Experiment**, *Machine Learning in Science and Engineering*, Pittsburgh, USA.
- 04/2018 **Generative Models for Fast Cluster Simulations in the TPC for the ALICE Experiment**, *2nd IML Machine Learning Workshop*, Geneva, Switzerland.