# Danik Hollatz

**Deep Learning Engineer**

Email : danik.hollatz@t-online.de
Mobile: +4917664656049


## Summary


Experienced Deep Learning Engineer with a strong background in Computer Vision, bringing 3+ years of expertise in this field. My interests are focused on developing engineering solutions that utilize neural networks, alongside exploring diverse areas of AI.


## Working Expirience

- **Internship and Master Thesis @ Bosch** Hildesheim, *October 2023 - May 2024*
  Conducted a survey of the performance of NeRF's architectures trained on synthetic, real-world, and collected by a mobile robot datasets.
  Created qualitative and quantitative analysis about the impact of the 11 most common image degradations types that can occur in the dataset on the resulting 3D reconstruction using PSNR, SSIM, and LPIPS metrics.
- **Working Student @ EDAG** Wolfsburg, *January 2023 - July 2023*
  Automated labeling process of the collected dataset for the task of Object Detection.
  Researched for best approaches, achieved map50-95 of 0.913 after fine-tuning YOLO models.
- **Research Assistant @ LUH** Hannover, *December 2021 - January 2023*
  Researched and implemented unsupervised pipelines based on VQ-VAE and other (e.g.: link, link) for the task of Anomaly Detection.

## Research

- **DeepCT-enhanced Lexical Argument Retrieval** @ ArgMining'24
  I prepared a text dataset and fine-tuned a BERT-based model for precision-oriented information retrieval and compared results with various retrieval models. Together with my mentors, I co-authored a paper that was accepted at the Argument Mining Workshop 2024.

## Education

- **Master at Leibniz University Hannover** Hannover
  *Informatics, specialization in Data Science* *2021-2024*
- **Bachelor at Martin Luther University Halle-Wittenberg** Halle
  *Informatics* *2018-2021*
  - **Bachelor Thesis**: Deep Learning for Locating Seed Placements in Images (PyTorch)
    During my Bachelor work I have described the fundamentals of neural networks and created various pipelines for the task of Object Localization achieving F1-Score of 0.87.
  - **Uni Praxis**: Correction of Street Spellings in Germany (TensorFlow)
    I have implemented an RNN that was capable to detect and correct up to 85% of typos in street spellings.
    github link
  - **Information Retrieval Competition**: We created pipelines for predicting the quality of arguments and retrieving them. We scored as Top-1 Uni-team and Top-7 overall in Touché @ CLEF as team 'Luke Skywalker' and described our approaches in Paper.
- **Bachelor at Odessa State Environmental University** Ukraine
  *Computer Science* *2017-2021*

## Skills

- **Python** for **Computer Vision, NLP, Audio Signal Processing**. Good knowledge of Java, C#
- **Working with:** PyTorch, TensorFlow, Numpy, Pandas, Matplotlib, OpenCV, Seaborn, Scikit-learn
- **Other:** SQL, Linux, Git, basics of SLURM, working via SSH
- **Languages**: German (C1), English (C1), Russian (native), Ukrainian (native)