

Morris Florek

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SKILLS

- **Programming Languages:** Python, Java, L^AT_EX
- **Programming Frameworks:** PyTorch, Huggingface, MMDetection, OpenCV, Jupyter, Pandas, NumPy, Matplotlib
- **Tools:** Git/GitHub, Anaconda, IntelliJ PyCharm
- **Technologies:** Deep Learning, Computer Vision
- **Languages:** German (Native), English (C1), French (B1)

EXPERIENCE

- **Bauhaus-University Weimar** Weimar, Germany
Research Assistant - Chair of Computer Vision 04/2023 - 12/2023
 - **Teaching:** Tutor in the course Deep Learning for Computer Vision. Responsible for presenting exercises and sample solutions, and guiding the final project in the domains of object detection and image classification.
- **RiB Software GmbH** Leipzig, Germany
Working Student - iECO Research Project 04/2022 - 03/2023
- **DB Engineering & Consulting** Stuttgart, Germany
Working Student - Structural Engineering Planning Department 04/2021 - 03/2022
- **Köster GmbH** Stuttgart, Germany
Working Student - Construction Management 01/2019 - 03/2021

PROJECTS

- **Multi-Domain Feature Extraction:** Linear probing (i.e. fine-tuning of the last projection layer) of different foundation models (CLIP, DINOv2, SAM, ...) on a custom curated training dataset for the task of universal image retrieval. The models underwent evaluation in a Kaggle challenge.
- **Dataset Refinement:** Enhance the class granularity of the Stanford Cars dataset by fine-tuning a car color classification model to classify the cars not only by model but also by color.
- **RODSL: Robust Object Detection with Soft-Label**, a semester project about exploring different methods (majority voting, weighted boxes fusion, expectation-maximization) to extract ground truth from multi-annotated images. The methods were evaluated by training and evaluating object detection and instance segmentation models using the MMDetection framework.

PUBLICATIONS

- **Drawing the Same Bounding Box Twice? Coping Noisy Annotations in Object Detection with Repeated Labels:** In Pattern Recognition: 45th DAGM German Conference, 2023, Tschirschwitz, D., Benz, C., Florek, M., Noerderhus, H., Stein, B., & Rodehorst, V.

EDUCATION

- **Bauhaus-University Weimar** Weimar, Germany
M.Sc. Digital Engineering 10/2021 – Present
 - **Thesis:** Efficient and Discriminative Image Feature Extraction for Multi-Domain Image Retrieval
 - **Relevant Courses:** Photogrammetric Computer Vision, Image analysis and object recognition, Introduction to Natural Language Processing, Software Engineering, Algorithms and Data Structures, Object-oriented Modeling and Programming in Engineering
- **University of Stuttgart** Stuttgart, Germany
B.Sc. Civil Engineering 10/2016 – 07/2021
 - **Thesis:** The behavior of structural steel after thermal exposure
 - **Relevant Courses:** Higher Mathematics 1/2/3, Statistics & Computer Science