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MASTER THESIS: OBJECT DETECTION WITH TRANSFORMER

Thesis topic description:

Transformer architecture achieves significant results in both natural language processing and computer vision. We are going to investigate the following research questions / directions:

- If we have extracted high quality heatmaps with self-attention, can Transformer improve the detection? and why?
- Can we put some prior knowledge in the queries to improve the detection?
- Is it possible to develop a self-supervised detection algorithm?
- Investigating lightweight Transformer models and pedestrian detection tasks.
- Related papers: [DeTr](#) and [DINO](#).

Your profile:

- Familiar with object detection tasks. Good background knowledge in deep learning and computer vision.
- Familiar with deep learning related implementations in Python and PyTorch.
- Good communication and scientific writing skills in English.
- Experience with Transformer is a plus.

Our offer:

- We have some proof-of-concept prototypes already and aim for a top conference publication.
- Knowledge in cutting-edge ML, insightful tech talks and sufficient guidance.
- Flexible working conditions, e.g., home office and free coffee and beverage.

Please submit your application with a detailed CV and a current transcript of records.

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