**Person Re-identification using Deep Learning**

Person re-identification (Re-ID) retrieves a person of interest across multiple non-overlapping cameras. With deep neural networks and the increasing demand for intelligent video surveillance, this problem has gained significantly increased interest in the computer vision community.

Re-identification is challenging due to various viewpoints, low-image resolutions, illumination changes, unconstrained poses, occlusions, heterogeneous modalities, complex camera environments, background clutter, unreliable bounding box generation, and more. Additionally, for practical model deployment, the dynamically updated camera network, a large-scale gallery with efficient retrieval, group uncertainty, unseen testing scenarios, incremental model updating, and changing clothes also greatly increase the difficulties.

Blog-1: <https://lamarr-institute.org/blog/deep-learning-re-identification/#:~:text=Re%2DIdentification%20(Re%2DID,re%2Didentification%20is%20facial%20recognition>.

Blog-2: <https://viso.ai/deep-learning/deep-learning-for-person-re-identification/>

Blog-3: <https://www.ntu.edu.sg/rose/research-focus/deep-learning-video-analytics/person-re-identification>

Blog-4: <https://anno-ai.medium.com/the-current-state-of-domain-adaptation-in-person-re-id-58eb87c5c3e1>

Blog-5: <https://alwaysai.co/blog/object-tracking-guide>

Blog-6: <https://medium.com/towards-data-science/improve-person-re-identification-with-face-detection-faceboxes-4450a93e50c7>

Blog-7 with implementation ideas: <https://sybernix.medium.com/a-practical-guide-to-person-re-identification-using-alignedreid-7683222da644>

Re-ID data transform: <https://anno-ai.medium.com/re-id-data-transforms-that-work-and-those-that-dont-593ac5af25ae>

Triplet Loss: <https://github.com/omoindrot/tensorflow-triplet-loss>

**Dataset**

Vehicle Re-ID dataset: <https://www.aicitychallenge.org/2021-ai-city/>

Market-1501: <https://paperswithcode.com/dataset/market-1501>

Implementation

Code-1: <https://github.com/badalyaz/object-re-identification>

Papers with code: <https://paperswithcode.com/task/person-re-identification>

Papers with code: <https://paperswithcode.com/task/person-re-identification?page=7>

Torch reid medium: <https://python.plainenglish.io/how-to-create-custom-dataset-with-model-training-and-visualization-on-torch-reid-7c2fc456579e>

Market-1501 Kaggle: <https://www.kaggle.com/datasets/pengcw1/market-1501>

Market-1501 preprocessing: <https://sybernix.medium.com/pre-processing-market1501-person-reid-dataset-for-pytorch-fbb4912f4cc5>

**Some repo:**

Vehicle Re-Id: <https://github.com/regob/vehicle_reid/tree/master>

Person Re-Id: <https://github.com/layumi/Person_reID_baseline_pytorch>

Person Re-Id practical: <https://github.com/layumi/Person_reID_baseline_pytorch/tree/master/tutorial>

Vehicle Re-Id tutorial: <https://www.kaggle.com/code/sosperec/vehicle-reid-tutorial>