The slope of the line can provide insights into the effectiveness of the system. A steeper slope indicates that the system is better at distinguishing between similar and dissimilar samples, which is often desirable in pattern recognition tasks. On the other hand, a shallower slope may indicate that the system struggles more with discriminating between closely related classes.

Computational Considerations:

Utilizing a robust backbone like ResNet50 modified for triplet training ensures that the model benefits from deep hierarchical feature extraction while being computationally efficient due to shared weights across the triplet inputs.

The choice of hyperparameters and training settings reflects a balance between computational resource utilization and empirical performance, aiming for an optimal trade-off that leverages available computational resources without compromising the learning quality.

In terms of where to put effort though, I think you'll get more value looking at situations where the methods perform differently. For example, how do they work when gallery and probe poses are similar, or wildly different, or the lighting changes?

Hello! With regards to the question “are there any instances where the non-deep-learning method works better?” - what is meant by this (apart from that the runtime of a non-deep-learning method is much less)? Thank you!

There are 301 IDs. Overall you're probably seeing that the deep learning approach is better, but are there some IDs where the non-deep method works better.

Class imbalance is there because there is identities which have more images than others, leading to potential biases in model training where the model might perform better on identities with more data. The viewpoint Variations in the dataset consists of images captured from multiple camera angles, which lead to significant variations in appearance and pose. This may make it difficult for models to consistently recognize the same individual across different viewpoints. Background Clutter and obstructions are also an issue. Many images feature complex backgrounds that can distract from the primary subject, making accurate identification more challenging. Subjects are sometimes occluded by other people or objects in the environment, which can obscure key features used for identification.