Batch-Incremental Triplet Sampling for Training Triplet Networks Using Bayesian Updating Theorem

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Explicit Metric Learning, Triplet/ NCA Losses

Procedure: TrainTripletNetwork({z_i}^n_{i=1}, {y_i}^n_{i=1})

Input: training data: {z_i}^n_{i=1}, training labels: {y_i}^n_{i=1}

Minimize the triplet/NCA loss with the \((b \times (c-1))\) triplets.

Algorithm 1: Dynamic Triplet Sampling with Bayesian Updating

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Bayesian Updating Theorem

Results

2D visualization of test embeddings: (a) MNIST using BUT, (b) MNIST using BUNCA, (c) CRC using BUT, and (d) CRC using BUNCA.