You’re your own best teacher: A Self-Supervised Learning Approach For Expressive Representations

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0.1 Stage 1

As mentioned in the section on representation learning, one needs to determine a set of tasks one wish to evaluate on, in order to say anything about the quality of the representations. We evaluate the representations based on two tasks

0.1.1 Evaluation metrics

- **Reconstruction**: We evaluate the models ability to reconstruct the original data from latent representation. Success indicating perservation of information.
- **Downstream classification**: We evaluate the latent representations on its ability linear classification.
- **Training time**
- **Number of parameters**
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0.1.2 Reconstruction

0.1.3 Classification

0.1.4 Codebook investigations

In the two tokenization models, how does the codebooks differ? Look at codebook utlization. Histograms across dimensions?

0.2 Stage 2

0.2.1 Evaluation metrics

- **IS**:
- **FID**:
- **Visual inspection**:
- **Token usage**:
- **Generating distribution**:

0.3 Ablation studies

0.3.1 Augmentation Reconstruction Weight

0.3.2 Augmentation robustness

TODO: Download the Wandb data.

Plot for each dataset and each augmentation: Mean KNN / SVM / ReconsLoss against augReconsWeight. Color code according to SSL-model.