Evaluation Metrics

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Metrics used from: https://torchmetrics.readthedocs.io/en/latest/
Metrics were calculated separately for: Train, Test and Valida

$$\text{MAE} = \frac{1}{N}\sum_{i}^{N} |y_i - \hat{y}_i|$$

Mean Absolute Error: https://torchmetrics.readthedocs.io/en/latest/references/modules.html#meanabsoluteerror

$$\text{PSNR}(I, J) = 10 * \log_{10}\left(\frac{\max(I)^2}{\text{MSE}(I, J)}\right)$$

Peak Signal-to-noise ratio: https://torchmetrics.readthedocs.io/en/latest/references/modules.html#psnr

Loss:

The unreduced (i.e. with `reduction` set to `'none'`) loss can be described as:

$$\ell(x, y) = L = \{l_1, \dots, l_N\}^\top, \quad l_n = (x_n - y_n)^2,$$

where N is the batch size. If `reduction` is not `'none'` (default `'mean'`), then:

$$\ell(x, y) = \begin{cases} \text{mean}(L), & \text{if reduction} = \text{'mean'}; \\ \text{sum}(L), & \text{if reduction} = \text{'sum'}. \end{cases}$$

https://pytorch.org/docs/stable/generated/torch.nn.MSELoss.html#torch.nn.MSELoss