## **Evaluation Metrics**

• Mean absolute error: 
$$MAE = \frac{1}{n} \sum_{i=1}^{n} |A_i - P_i|$$

• Pearson correlation coefficient: 
$$r = \frac{1}{n-1} \sum_{i=1}^{n} \left( \frac{A_i - \overline{A}}{\sigma_A} \right) \left( \frac{P_i - \overline{P}}{\sigma_P} \right)$$

where  $A_i$  denotes the human-annotated ratings,  $P_i$  denotes the machine-predicted ratings, n is the number of test samples,  $\overline{A}$  and  $\overline{P}$  respectively denote the arithmetic mean of A and P, and  $\sigma$  is the standard deviation.