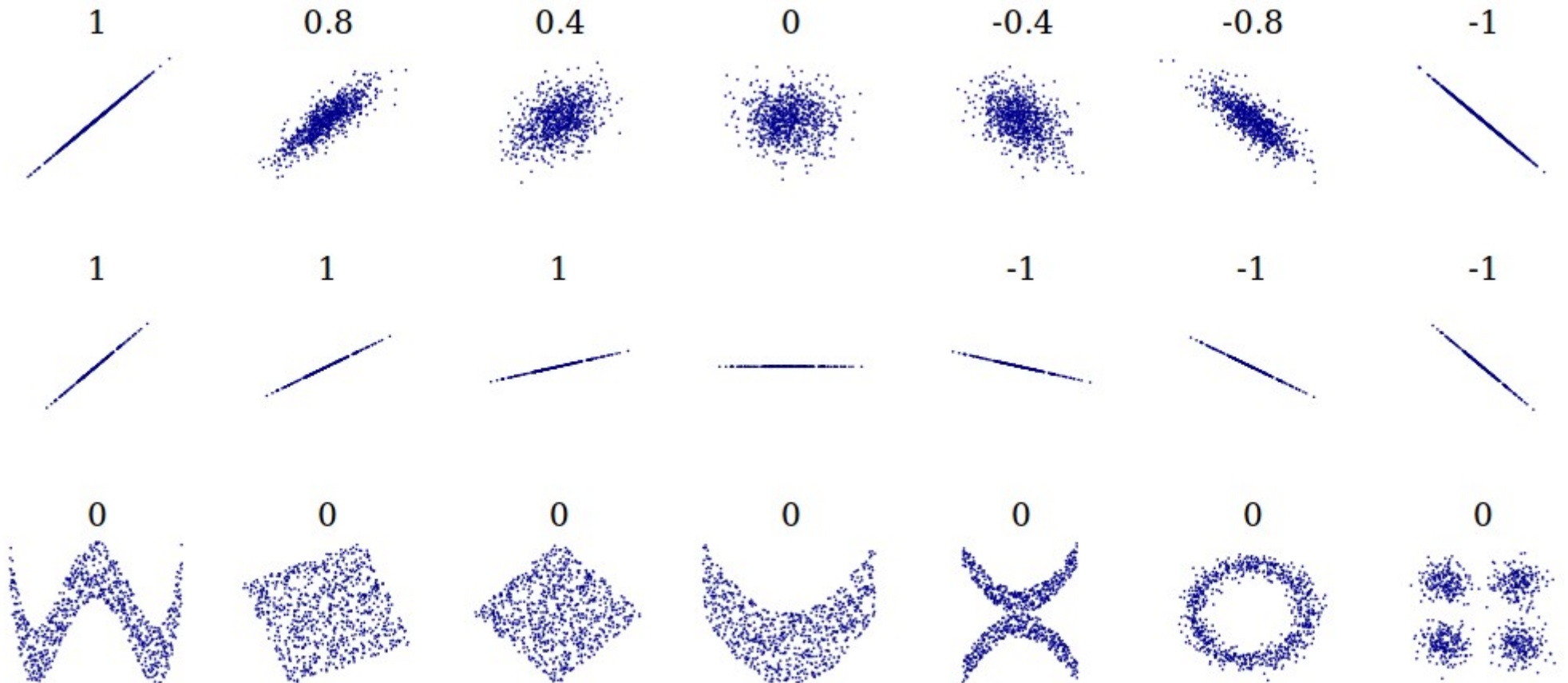# Intrinsic Evaluation for STS

Eneko Agirre
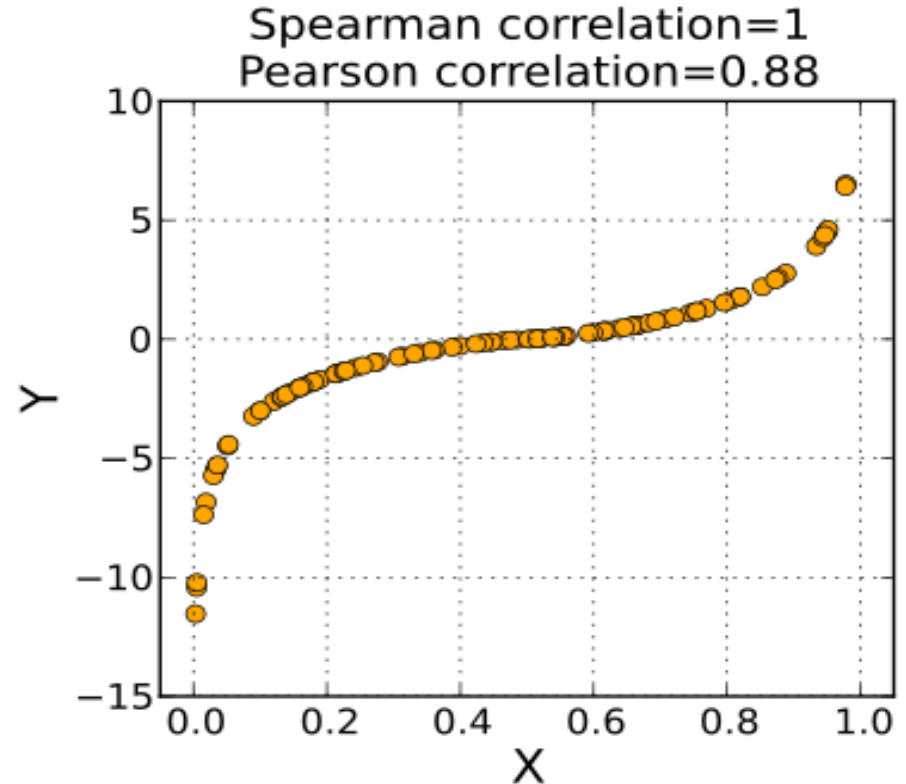
Measures of correlation

- Pearson $r = \dfrac{1}{n-1} \displaystyle\sum_{i=1}^{n} \left(\dfrac{X_i - \bar{X}}{s_X} \right) \left(\dfrac{Y_i - \bar{Y}}{s_Y} \right)$

Measures of correlation

- Spearman
  - Pearson of ranks
  - Pearson decreases if relation is not linear
  - Valuable algorithms penalized
  - Avoid learning a transofrmation function
  - Might not be meaningful in all applications
- Kendall Tau
  also based on ranks

Spearman correlation=1
Pearson correlation=0.88

Using confidence scores

- Weighted correlation using Pearson

    - Each pair has a weight for it's degree of importance

    - Pairs with high confidence influence more in the correlation

    - Not necessarily the correct option, but could be a start