

User Similarity Measures

- Pearson correlation coefficient (sum over commonly rated items)

$$w_p(a, i) = \frac{\sum_j (x_{aj} - n_a)(x_{ij} - n_i)}{\sqrt{\sum_j (x_{aj} - n_a)^2 \sum_j (x_{ij} - n_i)^2}}$$

- Cosine measure

$$w_c(a, i) = \frac{\sum_{j=1}^n x_{aj} x_{ij}}{\sqrt{\sum_{j=1}^n x_{aj}^2 \sum_{j=1}^n x_{ij}^2}}$$

- Many other possibilities!