

# Combine Precision and Recall: F-Measure

$$F_{\beta} = \frac{1}{\frac{\beta^2}{\beta^2+1} \frac{1}{R} + \frac{1}{\beta^2+1} \frac{1}{P}} = \frac{(\beta^2 + 1)P * R}{\beta^2 P + R}$$

$$F_1 = \frac{2PR}{P + R}$$

**P**: precision

**R**: recall

**β**: parameter (often set to 1)

Why not  $0.5 * P + 0.5 * R$ ?

What is R if the system says “y” for all category-doc pairs?