Entropy-Based Refinment of Textual Review Scores Using Sentiment Analysis

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Abstract

This is the paper's abstract ...

1 Entropy

$$H(s) = -\frac{1}{Z}\sum_{i=1}^{k}(P(s_i)log_2(P(s_i))), \quad Z = -\sum_{i=1}^{k}\left(\frac{1}{k}log_2\left(\frac{1}{k}\right)\right) \tag{1}$$

2 Confidence Function

$$C(s;\alpha,\beta) = \alpha(1-s^{\beta})^{\left(\frac{1}{\beta}\right)} \tag{2}$$

3 Score Adjustment

$$A(r,s) = r + C(s)\left(\sum_{i=1}^{k}(s_iP(s_i)) - r\right) \tag{3}$$

$$A(r,s) = (1 - C(s))r + C(s)\left(\sum_{i=1}^{k}(s_i P(s_i))\right) \tag{4}$$

$$= r - C(s)(r) + C(s)\left(\sum_{i=1}^{k}(s_i P(s_i))\right) \tag{5}$$

$$= r + C(s)\left(\sum_{i=1}^{k}(s_i P(s_i)) - r\right) \tag{6}$$