Appendices

Appendix A - Mathematical model of the sentiment function

$$\delta_{i**j} = \frac{{c'}_{i**j}}{\sqrt{w_{i,j**n}}}$$

Where:

$${c'}_{i,j} = \sum\left(\left(1 + w_{amp} + w_{deamp}\right) * w_{i,j,k}^{p} * (-1)^{2+w_{neg}}\right)$$

$$w_{amp} = \sum\left(w_{neg} * \left(z * w_{i,j,k}^{a}\right)\right.$$

$$w_{deamp} = \max\left(w_{deamp'}, -1\right)$$

$$w_{deamp'} = \sum\left(z\left(-w_{neg} * w_{i,j,k}^{a} + w_{i,j,k}^{d}\right)\right)$$

$$w_{b} = 1 + z_{2} * w_{b'}$$

$$w_{b'} = \sum\left(\left|w_{adversative\ conjuction}\right|, \ldots, w_{i,j,k}^{p}, w_{i,j,k}^{p}, \ldots, \left|w_{adversative\ conjuction}\right| * -1\right)$$

$$w_{neg} = \left(\sum w_{i,j,k}^{n}\right) mod\ 2$$

i = paragraph number

j = sentence number

k = word number

Lower bound cluster:

$$max\left\{p\ **\ w_{i,j,k-n**b}, 1, max\left\{c\ **\ w_{i,j,k} < p\ **\ w_{i,j,k}\right\}\right\}$$

Upper bound cluster:

$$min\left\{p\ **\ w_{i,j,k\ +\ n**a}, w_{i,j**n}, min\left\{c\ **\ w_{i,j,k} > p\ **\ w_{i,j,k}\right\}\right\}$$

Where $w_{i,j**n} = number\ of\ words\ in\ the\ sentence$