
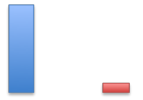
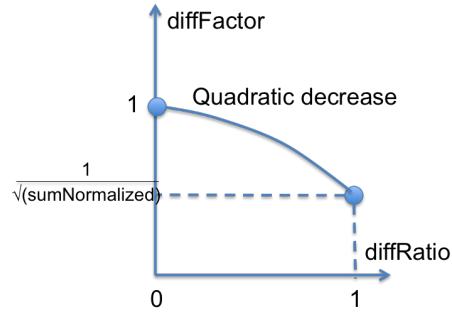


```

function GetControversyScore(numPositiveNeighbors, numNegativeNeighbors) :
    sumNormalized = numPositiveNeighbors + numNegativeNeighbors + 1;
    diffRatio =  $\frac{|numPositiveNeighbors - numNegativeNeighbors|}{sumNormalized}$ ;
    diffFactor =  $1 - (diffRatio^2) \cdot (1 - \frac{1}{\sqrt{sumNormalized}})$ ;
    return  $\ln(sumNormalized \times diffFactor)$ ;

```

	diffRatio	diffFactor
	0.0	1.0
	~ 1.0	$\frac{1}{\sqrt{sumNormalized}}$



```

function GetControversyScore1(numPositiveNeighbors, numNegativeNeighbors) :
    sum = numPositiveNeighbors + numNegativeNeighbors;
    sumNormalized = sum + 1;
    diff =  $|numPositiveNeighbors - numNegativeNeighbors|$ ;
    diffNormalized =  $1 - \frac{diff}{sumNormalized}$ ;
    diffScaleFactor = 2;
    diffNormalizedAndScaled =  $1 + (diffScaleFactor - 1) \cdot diffNormalized$ ;
    return  $diffNormalizedAndScaled \cdot \ln(sumNormalized)$ ;

```

```

function GetSentimentScore(numPositiveNeighbors, numNegativeNeighbors) :
    return  $numPositiveNeighbors - numNegativeNeighbors$ ;

```