

# Chinese Whispers - An Efficient Graph Clustering Algorithm

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*Tuesday 14 May 2019*

## **Chinese Whispers - An Efficient Graph Clustering Algorithm**

The article was written by (Biemann [2006](#)). It was cited [303](#) times according to Google Scholar. The task performed was graph-clustering. They used x metric over x.

### **Hypothesis**

A randomized graph-clustering algorithm would perform well of small worlds.

## **Evidence and Results**

### **Dataset**

The dataset used are all from the natural language processing world.

### **Results**

### **Contribution**

The authors propose

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**Algorithm 1** Chinese Whispers

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**Input:** An initial graph  $G$  of  $V$  multidimensional vectors to be clustered; A maximum number of iterations  $maxiterations$

**Output:** An assignment of the clusters for each vertex  $\in G.V$

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1: procedure CHINESEWHISPERS( $G$ )
2:   for each vertex  $(i, v) \in enum(G.V)$  do
3:      $class(v_i) \leftarrow i$ 
4:   end for
5:   while  $maxiterations > 0$  do
6:      $vertexlist \leftarrow shuffle(G.V)$ 
7:     for each  $v \in vertexlist$  do
8:        $class(v) \leftarrow \operatorname{argmax}_{\theta} [\sum_{c \in Neighbors(v)} \mathbb{I}(c, \theta)]$   $\triangleright$  Highest count class among  $v$ 's neighbors
9:     end for
10:     $maxiteration_{sp} \leftarrow maxiterations - 1$ 
11:  end while
12:  return class
13: end procedure

```

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Small world graphs

## Controversial Ideas

## Weaknesses

## Future Work

## References

Biemann, Chris (June 2006). “Chinese Whispers - an Efficient Graph Clustering Algorithm and its Application to Natural Language Processing Problems”. In: *Proceedings of TextGraphs: the First Workshop on Graph Based Methods for Natural Language Processing*. New York City: Association for Computational Linguistics, pp. 73–80. URL: <https://www.aclweb.org/anthology/W06-3812>.