

论文与报告

## 基于随机网络的在线评论情绪倾向性分类

杨锋, 彭勤科, 徐涛

1. 机械制造与系统工程国家重点实验室(西安交通大学) 西安 710049

2. 智能网络与网络安全教育部重点实验室 西安 710049

3. 西安交通大学电子与信息工程学院自动化系 西安 710049

收稿日期 2008-11-21 修回日期 2010-1-13 网络版发布日期 接受日期

摘要

提出了一种基于随机网络的在线评论情绪倾向性分类模型SCP-X (Shortest covering path-X). 首先引入了一种增量式创建词语顺序共现随机网络的方法, 并基于此随机网络以及情绪词表, 提出了一种基于评论序列最短覆盖路径(Shortest covering path, SCP)的情绪倾向性分类方法. 该方法具有以下两个优点: 1)能够对相对短小、随意性较强、完整性较差的评论文本展开词语联想, 从而对完整性较差的评论数据进行属性值扩展; 2)能够对评论文本的冗余属性进行约简, 约简后数据的属性规模为一般VSM模型的10%左右. 本文最后设计了一组实验, 对以下算法进行了对比测试: TC, SVM, SCP-TC, SCP-SVM, SCP-HMM, SCP-Bayes. 结果表明本文提出的SCP-X方法对在线评论文本的倾向性分类效果更佳.

关键词 [在线评论](#) [随机网络](#) [最短路径](#) [属性约简](#) [情绪倾向性](#)

分类号

## Sentiment Classification for Online Comments Based on Random Network Theory

YANG Feng, PENG Qin-Ke, XU Tao

1. State Key Laboratory for Manufacturing Systems Engineering (Xi'an Jiaotong University), Xi'an 710049

2. Key Laboratory for Intelligent Networks and Network Security, Ministry of Education, Xi'an 710049

3. School of Electronic and Information Engineering, Xi'an Jiaotong University, Xi'an 710049

Abstract

We propose a new method of sentiment classification named SCP-X (shortest covering path-X) for online comment based on the random network theory. A new approach which is proved to be effective by experiments is presented to create the word co-occurred network incrementally. With the network, the sequences of online comments, which are shorter, more optional and more fragmentary, are extended by shortest covering path (SCP) proposed in this paper. Using this algorithm, the amount of attributes is reduced to about 10% compared to VSM. Finally, experiments are designed to compare the results of the algorithms such as TC, SVM, SCP-TC, SCP-SVM, SCP-HMM, and SCP-Bayes. The results indicate that SCP-X is remarkably effective to classify online comments by sentiment orientation.

Key words [Online comment](#) [random network](#) [shortest path](#) [attributes reduction](#) [sentiment orientation](#)

DOI: 10.3724/SP.J.1004.2010.00837

通讯作者 彭勤科 [gkpeng@xjtu.edu.cn](mailto:gkpeng@xjtu.edu.cn)

作者个人主页 杨锋; 彭勤科; 徐涛

### 扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF \(887KB\)](#)

▶ [\[HTML全文\]\(OKB\)](#)

▶ [参考文献\[PDF\]](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

相关信息

▶ [本刊中 包含“在线评论”的 相关文章](#)

▶ 本文作者相关文章

· [杨锋](#)

· [彭勤科](#)

· [徐涛](#)