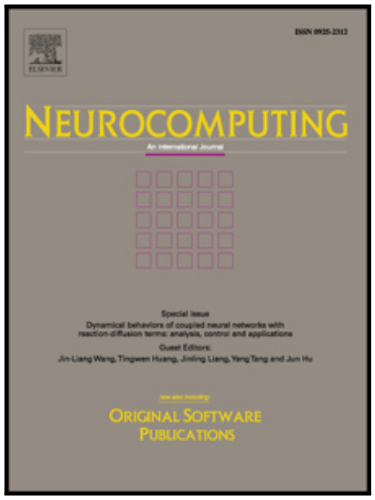
Communicated by Tao Li

Accepted Manuscript



Guiding Supervised Topic Modeling for Content Based Tag Recommendation

Yong Wu, Shengqu Xi, Yuan Yao, Feng Xu, Hanghang Tong, Jian Lu

PII: S0925-2312(18)30839-7
DOI: 10.1016/j.neucom.2018.07.011
Reference: NEUCOM 19759

To appear in: *Neurocomputing*

Received date: 13 October 2017
Revised date: 2 May 2018
Accepted date: 3 July 2018

Please cite this article as: Yong Wu, Shengqu Xi, Yuan Yao, Feng Xu, Hanghang Tong, Jian Lu, Guiding Supervised Topic Modeling for Content Based Tag Recommendation, *Neurocomputing* (2018), doi: 10.1016/j.neucom.2018.07.011

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Guiding Supervised Topic Modeling for Content Based Tag Recommendation

Yong Wu[a], Shengqu Xi[a], Yuan Yao[a,*], Feng Xu[a], Hanghang Tong[b], Jian Lu[a]

[a]*National Key Laboratory for Novel Software Technology, Nanjing University, China*
[b]*Arizona State University, USA*

Abstract

Automatically recommending suitable tags for online content is a necessary task for better information organization and retrieval. In this article, we propose a generative model SimWord for the tag recommendation problem on textual content. The key observation of our model is that the tags and their relevant/similar words may have appeared in the corresponding content. In particular, we first empirically verify this observation in real data sets, and then design a supervised topic model which is guided by the above observation for tag recommendation. Experimental evaluations demonstrate that the proposed method outperforms several existing methods in terms of recommendation accuracy.

Keywords: Tag recommendation, similar words, relevant words, supervised topic modeling, generative model

1. Introduction

Tagging is a widespread mechanism on the Web. On one hand, tags usually indicate the keywords to describe and summarize the online content, which could benefit the organization and retrieval of online content. On the other hand, over 50% online content lacks tag information or even does not have tags at all [18]; moreover, it is often painstaking for users (even the content creators)

*Corresponding author
Email addresses: wy@smail.nju.edu.cn (Yong Wu), nju.cellzero@gmail.com (Shengqu Xi), y.yao@nju.edu.cn (Yuan Yao), xf@nju.edu.cn (Feng Xu), hanghang.tong@asu.edu (Hanghang Tong), lj@nju.edu.cn (Jian Lu)

Download English Version:

https://daneshyari.com/en/article/8960156

Download Persian Version:

https://daneshyari.com/article/8960156

Daneshyari.com