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Robertus Nugroho <robertus1981@gmail.com>

KAIS-D-18-00514 - Submission Confirmation
1 message

Knowledge and Information Systems (KAIS) <em@editorialmanager.com>

Thu, Sep 13, 2018 at 10:54 AM

Reply-To: "Knowledge and Information Systems (KAIS)" <arun.santhosh@springer.com>
To: Robertus Nugroho <robertus1981@gmail.com>

Dear Dr. Nugroho,

Thank you for submitting your manuscript, A Survey of Recent Methods on Deriving Topics from Twitter: Algorithm to Evaluation, to Knowledge and Information Systems.

The submission id is: KAIS-D-18-00514

Please refer to this number in any future correspondence.

During the review process, you can keep track of the status of your manuscript by accessing the journal website.

Your username is: RNugroho-686
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https://kais.editorialmanager.com/

Should you require any further assistance please feel free to e-mail the Editorial Office by clicking on "Contact Us" in the menu bar at the top of the screen.

Thank you very much.

With kind regards,
Springer Journals Editorial Office
Knowledge and Information Systems

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M Gmail   **Robertus Nugroho <robertus1981@gmail.com>**

Acknowledgement of Receipt of #KAIS-D-18-00514R1

1 message

Knowledge and Information Systems (KAIS) <em@editorialmanager.com>   Tue, May 14, 2019 at 4:21 PM
Reply-To: "Knowledge and Information Systems (KAIS)" <madan.ellappan@springernature.com>
To: Robertus Nugroho <robertus1981@gmail.com>

Dear Dr. Nugroho:

We acknowledge, with thanks, receipt of the revised version of your manuscript, "A Survey of Recent Methods on Deriving Topics from Twitter: Algorithm to Evaluation", submitted to Knowledge and Information Systems. The manuscript number is KAIS-D-18-00514R1.

We will inform you of the Editor's decision as soon as possible.

Best regards,

   The Editorial Office
   Knowledge and Information Systems

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Robertus Nugroho <robertus1981@gmail.com>

Decision on your manuscript #KAIS-D-18-00514

1 message

Knowledge and Information Systems (KAIS) <em@editorialmanager.com>   Fri, Mar 15, 2019 at 4:00 PM
Reply-To: "Knowledge and Information Systems (KAIS)" <madan.ellappan@springernature.com>
To: Robertus Nugroho <robertus1981@gmail.com>

CC: xwu@louisiana.edu, dacheng.tao@sydney.edu.au, "Cecile Paris" cecile.paris@data61.csiro.au, "Surya Nepal" surya.nepal@data61.csiro.au, "Jian Yang" jian.yang@mq.edu.au, "Weiliang Zhao" weiliang.zhao@mq.edu.au

Dear Dr. Nugroho:

RE: "A Survey of Recent Methods on Deriving Topics from Twitter: Algorithm to Evaluation"
by Robertus Nugroho; Cecile Paris; Surya Nepal; Jian Yang; Weiliang Zhao

Please find appended below the review reports on the above paper. Based on these review reports and the handling editor's recommendation, I encourage you to revise and resubmit the paper within two months after a substantial revision.

Please revise the paper according to the reviewers comments. In order to submit your revised manuscript electronically, please access the following web site:

   https://www.editorialmanager.com/kais/

If you forget your username and password for the journal, you can restore it at Knowledge and Information Systems by using the "Send Login Details" link on the Login page.

Please click "Author Login" to submit your revision.

When you submit your revised paper, please include a statement of how you have been able to respond to the reviewers concerns.

Sincerely,

Dacheng Tao,
Editor-in-Chief,
Knowledge and Information Systems

COMMENTS FOR THE AUTHOR:

%

Reviewer #2: RATINGS OF PAPER

[Please rate the following by entering a score between -3 to 3 with 0 being the average based on the following guidelines:
  3: Strong Accept (As good as any top paper in reputable journals)
  2: Accept (Comparable to good papers in reputable journals)
  1: Weak Accept (I vote acceptance, but won't argue for it)
  0: Neutral (I don't like it, but I won't object if others like it)
 -1: Weak Reject (I would rather not see this paper accepted)
 -2: Reject (I would argue to reject this paper)
 -3: Strong Reject (Definitely detrimental to the journal quality if
    accepted)]

    Originality of the paper: -3
    Technical soundness: -2
    Significance: 2
    Clarity of presentation: 1
    Relevance to KAIS: 3
  - Is the paper topic on the KAIS topic list? (X) yes ( ) no

LENGTH (relative to the useful contents of the paper)

    About right: X
    Should be shortened:
    Should be extended:

If the paper should be shortened, please indicate an expected number of pages (in its submission format) to be removed: 5

OVERALL RECOMMENDATION

    Accept with no changes:
    Accept subject to minor revisions:
    Author should prepare a major revision for a second review: X
    (Not applicable if the paper in question is itself a major revision of a previously reviewed paper.)
    Reject:

  If the paper is accepted, it should be published as a

    regular paper: X
    short paper:

A SHORT SUMMARY OF THE RATIONALE FOR YOUR RECOMMENDATION
(5 lines expected)
The paper is a survey of topic deriving methods on Twitter. It has covered a good number of related papers (128 references) both on long documents (such as emails and academic papers) and short ones (such as tweets). A survey or a review paper needs to be designed in a way to be useful for those who are new in a field. So having a section that introduces the terminology and describes challenges, motivations and backgrounds before reviewing existing methods is necessary. The reviewed techniques in this paper are mostly listed without providing enough comparison across techniques. It seems that the main purpose of the paper is covering more works rather than introducing each technique briefly. Moreover, what is missed in the paper is analytic view of authors for provided techniques or at least for each class of techniques. Provided techniques need to be analyzed w.r.t time complexity, performance, and data collection. The main reason of asking for major revision is that the
topic of the paper is very interesting and recently become popular among researchers which means a survey would make it easier for others to work on this field. But the paper is filled with many methods which makes it hard to read and understand the difference between them. So a major revision is needed to explain techniques more in terms of contributions that they have made.

DETAILED COMMENTS FOR AUTHOR(S)
(Please enter your comments for the author(s) giving your reasons for accepting or rejecting the paper by considering the following suggested points: (1) main contributions; (2) positive aspects; and (3) negative aspects. In particular, you are encouraged to substantiate negative comments. If you claim that the work is not original, please give specific references to the earlier allegedly similar work.)
The main contribution of the paper is covering a good number of related papers and the problem is defined clearly.
In Introduction section, the provided statistics are from early 2017 which means about 2 years ago. At today's scale, these statistics may have changed significantly so it is better to provide updated statistics. Comparison with other social media platforms such as Facebook, Instagram, Pinterest, Reddit is also needed to explain the motivation of deriving topics from Twitter.
The section that reviews existing surveys is very helpful, but since the details of techniques have not been discussed, mentioning survey papers would be enough. Authors can summarize survey papers in a table w.r.t studied categories. Having many names and methods makes it hard to read the paper. Adding analytic views and authors understanding while introducing techniques would solve this issue.
When techniques are described in high level, giving examples of how a technique works is better than explaining how the problem is formulated mathematically. Authors can explain techniques with simple examples which also add novelty to the paper.
In Experimental Results section, the reason that why Sanders dataset has not been divided into intervals is not provided. It is also useful to mention methods that their codes are publicly available.

a major revision, will you be willing to re-review a revised version of this paper? Yes (X) No ( ) (An "no" answer is equivalent to a reject recommendation.)

CONFIDENTIAL COMMENTS TO THE EDITORIAL BOARD
(As many lines as you like.)

Reviewer #4: The survey paper is well written and centered on an interesting topic.
Organization of the manuscript is good and the proposed review is quite comprehensive.

The survey, however, does not link well with recent literature on NLP, e.g., see recent trends in deep learning based natural language processing.
 Also, closely-related literature on NER research, e.g., see recent works on embeddings for named entity typing, should be included.

Reviewer #6: RATINGS OF PAPER

[Please rate the following by entering a score between -3 to 3 with 0 being the average based on the following guidelines:
  3: Strong Accept (As good as any top paper in reputable journals)
  2: Accept (Comparable to good papers in reputable journals)
  1: Weak Accept (I vote acceptance, but won't argue for it)
  0: Neutral (I don't like it, but I won't object if others like it)
 -1: Weak Reject (I would rather not see this paper accepted)
 -2: Reject (I would argue to reject this paper)
 -3: Strong Reject (Definitely detrimental to the journal quality if
    accepted)]

    Originality of the paper: 0
    Technical soundness: 1
    Significance: 1
    Clarity of presentation: -1
    Relevance to KAIS: 2
  - Is the paper topic on the KAIS topic list? (X) yes ( ) no

LENGTH (relative to the useful contents of the paper)

    About right: X
    Should be shortened:
    Should be extended:

If the paper should be shortened, please indicate an expected number of pages (in its submission format) to be removed:

OVERALL RECOMMENDATION

    Accept with no changes:
    Accept subject to minor revisions:
    Author should prepare a major revision for a second review: X
   (Not applicable if the paper in question is itself a major revision of a previously reviewed paper.)
    Reject:

  If the paper is accepted, it should be published as a

    regular paper: X
    short paper:

A SHORT SUMMARY OF THE RATIONALE FOR YOUR RECOMMENDATION
(5 lines expected)

The paper presents a survey of existing methods on Derived Topics from Twitter. The paper is well written, however, is a little bit unstructured, so it is difficult to follow. The article should be considered for publication after a major revision

DETAILED COMMENTS FOR AUTHOR(S)
(Please enter your comments for the author(s) giving your reasons for accepting or rejecting the paper by considering the following suggested points: (1) main contributions; (2) positive aspects; and (3) negative aspects. In particular, you are encouraged to substantiate negative comments. If you claim that the work is not original, please give specific references to the earlier allegedly similar work.)

If a major revision, will you be willing to re-review a revised version of this paper? Yes (X) No ( ) (An "no" answer is equivalent to a reject recommendation.)

The paper presents a survey of existing methods on Derived Topics from Twitter. The paper is well written, however, is a little bit unstructured, so it is difficult to follow.

The papers can be improved following these suggestions:

  - The introduction is just an explanation of why Twitter is important which is something commonly accepted. However, this section should include an introduction of the methods that will be studied and the methodology carried out to perform the survey.
  - The article should include a methodological section with the description of the process carried out to perform the survey
  - References are not really current, the newest is from 2016.
  - Authors should discuss which are the best techniques.
  - Some related references that are not included:
     - Decision Support for Digital Marketing Through Virtual Organizations-Influencers on Twitter. In International Conference on Knowledge Management in Organizations (pp. 574-585). Springer, Cham.
     - Towards the Automatic Identification and Monitoring of Radicalization Activities in Twitter. In International Conference on Knowledge Management in Organizations (pp. 589-599). Springer, Cham.
     - Twitter user clustering based on their preferences and the Louvain algorithm. En Trends in Practical Applications of Scalable Multi-Agent Systems, the PAAMS Collection. Springer, Cham, 2016. p. 349-356.

CONFIDENTIAL COMMENTS TO THE EDITORIAL BOARD
(As many lines as you like.)

Reviewer #7: RATINGS OF PAPER

[Please rate the following by entering a score between -3 to 3 with 0 being the average based on the following guidelines:
  2: Accept (Comparable to good papers in reputable journals)

     Originality of the paper: 1
     Technical soundness: 0
     Significance: 1
     Clarity of presentation: 1
     Relevance to KAIS: 2
   - Is the paper topic on the KAIS topic list? yes

LENGTH (relative to the useful contents of the paper)

     Should be extended: X

OVERALL RECOMMENDATION

     Accept subject to minor revisions:

   If the paper is accepted, it should be published as a

      regular paper: X

A SHORT SUMMARY OF THE RATIONALE FOR YOUR RECOMMENDATION
This paper is a new survey on topic derivation from tweets. This survey investigate some complementary dimensions rather than other identified surveys.
The topic is interesting and important for many applications.
This paper suffers from many limitations that are explained in the review.
I hesitate between minor revision and major revision.

DETAILED COMMENTS FOR AUTHOR(S)
(1) main contributions;

A survey related to topic derivation that is a central subject for authors.

(2) positive aspects;

The paper is welll written and interesting. It is worth to be published if upgraded.
The presentation of common techniques is OK.

and (3) negative aspects.

The state of the art is quite recent, but papers before 2017 are referenced. I suggest to authors to update this section in order to integrate recent papers (2017 or 2018).

In the paper, authors talk about "topic derivation related to social media" (e.g. p5. line 19-20). Such kind of sentence

is, to my point of view too general. I suggest to author to focus only on twitter that can be really considered as their objective that is to say topic derivation from (very) short text only having specific characteristics (#hashtags...). I also suggest to deeply introduce specific characteristics of twitter texts in this paper.

Section 5, related to dataset, should be improved:
> Add link to public URL for every dataset.
> More deeply describe every dataset in giving common characteristics that may impact topic derivation

Section 5.3, should introduce a comparison between 2 datasets in order to highlight some sensitivity of some approaches.

References:
@inproceedings{inproceedings,
author = {Rafea, Ahmed and Gaballah, Nada},
year = {2013},
month = {05},
pages = {94-98},
title = {Topic extraction in social media},
isbn = {978-1-4673-6403-4},
doi = {10.1109/CTS.2013.6567212}
}
@inproceedings{AlvarezMelis2016TopicMI,
  title={Topic Modeling in Twitter: Aggregating Tweets by Conversations},
  author={David Alvarez-Melis and Martin Saveski},
  booktitle={ICWSM},
  year={2016}
}

If a major revision, will you be willing to re-review a revised version of this paper? Yes (X)

Reviewer #8: RATINGS OF PAPER

[Please rate the following by entering a score between -3 to 3 with 0 being the average based on the following guidelines:

  2: Accept (Comparable to good papers in reputable journals)

    Originality of the paper: 2
    Technical soundness: 3
    Significance:2
    Clarity of presentation:3
    Relevance to KAIS:2
  - Is the paper topic on the KAIS topic list?   x yes

LENGTH (relative to the useful contents of the paper)

    About right: x

If the paper should be shortened, please indicate an expected number of pages (in its submission format) to be removed:

OVERALL RECOMMENDATION

    Accept with no changes: x
    Accept subject to minor revisions:
    Author should prepare a major revision for a second review:
   (Not applicable if the paper in question is itself a major revision of a previously reviewed paper.)
    Reject:

  If the paper is accepted, it should be published as a

     regular paper:x

A SHORT SUMMARY OF THE RATIONALE FOR YOUR RECOMMENDATION
(5 lines expected)
The contribution of the paper entitled "A Survey of Recent Methods on Deriving Topics from Twitter: Algorithm to Evaluation" is clearly announced and fulfilled. "From algorithm to evaluation" is another claim of the paper, and the structure reflects this choice. The paper is very well written, both in its structure, the language and the formalism. It seems to be up to date, and is clearly positioned against other surveys on similar subjects.

DETAILED COMMENTS FOR AUTHOR(S)
(Please enter your comments for the author(s) giving your reasons for accepting or rejecting the paper by considering the following suggested points: (1) main contributions; (2) positive aspects; and (3) negative aspects. In particular, you are encouraged to substantiate negative comments. If you claim that the work is not original, please give specific references to the earlier allegedly similar work.)

The contribution of the paper (to derive topics from social media platforms) is clearly announced and fulfilled. "From algorithm to evaluation" is another claim of the paper, and the structure reflects this choice. The paper presents successively the general case of topic derivation, then the peculiarity of Twitter with its very short messages, and finally the problem of evaluating the results. This survey is also positioned against other surveys about short text analysis, event detection, topic models, evolution of topics.

Section 3 "Deriving Topics from a Collection of Documents" clearly describes the history and the state of the art in topic modeling, with LSA, pLSA, NMF and LDA. Consistent notations and the use of the plate notation in Figures help to understand the concepts and the evolution of these methods.

Section 4 presents the features that are currently used to help in deriving topics in Twitter: content, social features, and time (temporal aspect).
As content is the basis of the topic modeling, the paper first presents the experiments with the raw content, then the use of external resources to expand the (short) documents. The social features are the hashtags on the one hand, and the author and recipients of tweets on the other hand. Perhaps, hashtags could be seen as part of the content? The temporal aspect are important for analyzing tweets. The paper presents the studies that take into account this aspect, either in the topic evolution or burst detection.

Section 5 reviews the two available general test collections (TREC 2015 Microblog Track and Sanders Analytics). As these collections are not focused, some authors build their own collection. Concerning these last ones, the paper only indicates that these created collections should be annotated by at least two annotators. The paper describes in detail the Kappa coefficient metric that is used to evaluate the agreement between annotators. Perhaps mentioning whether the surveyed papers fulfill this requirements would be interesting and also if the collections used in the surveyed papers are available or not. The section 5.2 on "Evaluation Metrics" presents the well known measures: Purity, Normalized Mutual Information (NMI) and F-measure. This section remains very general. Only some final remarks address more specific problems.

Section 5.3 is very interesting as the authors evaluates five methods on the same dataset (TREC 2015 Microblog dataset) with the three measures Purity, NMI and F-measure. Besides the two basic methods (NMF, LDA) they choose one method for each of the extended features that were used for Tweets: content with TNMF, social with Plink-LDA, and time with NMijF.

Section 6 first contains a summary of the previous content, a table which crosses 18 of the surveyed papers with their use of the three extended features (content, social, temporal), and a discussion which highlights the difficulties of the Twitter environment.

In conclusion, I appreciated this paper. If I have to pointed out a weak point in this contribution, I would say that the issues are clearly identified and the limit of the state of art methods are given but potential solutions to overcome them are not well indicated. Moreover, the related topics such as topic diffusion or emerging topic identification are not detailed but, as it is not the subject of the paper, this last point is not really missing.

If a major revision, will you be willing to re-review a revised version of this paper? Yes ( ) No ( ) (An "no" answer is equivalent to a reject recommendation.)

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Robertus Nugroho <robertus1981@gmail.com>

KAIS Regular Paper KAIS-D-18-00514R2: Acceptance and Final Manuscript

1 message

Dacheng Tao <em@editorialmanager.com>   Thu, Oct 31, 2019 at 7:20 AM
Reply-To: Dacheng Tao <dacheng.tao@sydney.edu.au>
To: Robertus Nugroho <robertus1981@gmail.com>

CC: dacheng.tao@sydney.edu.au, wuxindong@mininglamp.com, xwu@cems.uvm.edu, "Cecile Paris"
cecile.paris@data61.csiro.au, "Surya Nepal" surya.nepal@data61.csiro.au, "Jian Yang" jian.yang@mq.edu.au,
"Weiliang Zhao" weiliang.zhao@mq.edu.au

Dear Dr. Nugroho,

"A Survey of Recent Methods on Deriving Topics from Twitter: Algorithm to Evaluation"
by Robertus Nugroho; Cecile Paris; Surya Nepal; Jian Yang; Weiliang Zhao

> Received: 12 Sep 2018
> Revised: 22 Aug 2019
> Accepted: 30 Oct 2019

 (Note: These dates should be provided in the final manuscript, and the author(s) are not allowed to change them.)

I am pleased to inform you that the above revised paper has been accepted as a Regular Paper for publication in the
Knowledge and Information Systems(KAIS) journal.

Please follow the instructions for final manuscript preparation on the journal home page
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office and released to production.

 Editorial Manuscript Number: KAIS-D-18-00514R2

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Sincerely,

Dacheng Tao
Editor-in-Chief
Knowledge and Information Systems

Comments for the Author:

The revision has addressed all reviewers' comments, hence ready for acceptance.