



# Document details

< Back to results | 1 of 1

↗ Export   ↓ Download   🖨 Print   ✉ E-mail   📄 Save to PDF   ☆ Add to List   More... >

[Full Text](#) View at Publisher

International Journal of Advanced Trends in Computer Science and Engineering  
Volume 9, Issue 4, July-August 2020, Article number 262, Pages 5967-5972

## Thematic textual hadith classification: An experiment in rapidminer using support vector machine (SVM) and naïve bayes algorithm (Article)

[\(Open Access\)](#)

Yusof, N.<sup>a</sup> ✉, Rosidi, S.A.<sup>a</sup> ✉, Ibrahim, N.K.<sup>a</sup> ✉, Ali, A.E.B.<sup>b</sup> ✉

<sup>a</sup>BIOCORE Research Group, Centre for Advanced Computing Technologies (C-ACT), Fakulti Teknologi Maklumat dan Komunikasi, Universiti Teknikal Malaysia Melaka (UTeM), Hang Tuah Jaya, Durian Tunggal, Melaka 76100, Malaysia

<sup>b</sup>Department of Quran Sunnah (QS), Kuliyyah of Islamic Revelation Knowledge and Human Science (KIRKHS), International Islamic University Malaysia, PO Box 10, Kuala Lumpur, 50728, Malaysia

Abstract

View references (34)

Metrics ⓘ View all metrics >

1 Citation in Scopus  
81st percentile

1.16 Field-Weighted  
Citation Impact ⓘ



PlumX Metrics

Usage, Captures, Mentions,  
Social Media and Citations  
beyond Scopus.

There are many existing problems in Hadith studies trending in the study field. The issues are changeable from the digitalization of the Hadith data to an exact case study of estimation of narrators' chain for a particular Hadith. However, in this paper, we are not concentrating on the such learning of estimating, confirming or authenticating a Hadith. It focuses more on the data mining use to the Hadith dataset. We put on the Hadith dataset onto one of machine learning tools which is text classification. The Hadith dataset is put into experiment for Hadith textual classification. It concentrates on the thematic classification based on the themes and words occurrences from the Hadith text (matn). The Hadith textual classification does not trace on the hukm and position or class of Hadith. This research does not categorize the Hadith into hukm Sahih, Hasan, Dhaif, or Mawdhoo'. However, the Hadith thematic dataset of this study use only Hadith from Sahih Bukhari, where all Hadith in the Book is categorized as sahih by Imam Al-Bukhari. The classification for this thematic Hadith dataset is implemented using Rapidminer, a machine learning tool using Naïve Bayes and Support Vector Machine (SVM) methods. From the results, the different value of accuracy for both SVM and Naïve Bayes Algorithm was 2.4%. The Naïve Bayes Algorithm displayed better result comparing to SVM. We believe that the result could be better by improving the data, algorithms, algorithm tuning or ensemble methods for the future experiments. © 2020, World Academy of Research in Science and Engineering. All rights reserved.

## SciVal Topic Prominence ⓘ

Topic: Hadith | Quran | Named Entity Recognition

Prominence percentile: 88.486 ⓘ

## Author keywords

Machine learning Naïve Bayes Rapidminer Support Vector Machine

## Funding details

Funding sponsor	Funding number	Acronym
Universiti Teknikal Malaysia Melaka		UTeM

## Cited by 1 document

Classification of the final project utilized a modified naïve bayes algorithm

Terttiaavini, Saputra, T.S., Fitriani, A.  
(2020) *International Journal of Advanced Trends in Computer Science and Engineering*

[View details of this citation](#)

Inform me when this document is cited in Scopus:

[Set citation alert >](#)

## Related documents

Digital hadith authentication: A literature review and analysis

Luthfi, E.T., Suryana, N., Basari, A.H.  
(2018) *Journal of Theoretical and Applied Information Technology*

Classification of Hadith According to Its Content Based on Supervised Learning Algorithms

Abdelaal, H.M., Elemery, B.R., Youness, H.A.  
(2019) *IEEE Access*

## Funding text

The authors would like to gratefully acknowledge the assistance, support and funding made available by the Universiti Teknikal Malaysia Melaka (UTeM), Faculty of Information and Communication Technology (FTMK), Centre for Research and Innovation Management (CRIM), and the Centre for Advanced Computing Technologies (C-ACT).

REFERENCES 1. Ibn Hajar al-ʿAsqalānī and Murad, A. Selections from the *Fath al-Bārī*. (commentary on *Ṣaḥīḥ al-Bukhārī*) followed by twenty fatwas on life after death. Cambridge: Muslim Academic Trust, 2000. 2. Batyrzhan M, Kulzhanova BR, Abzhalov SU, Mukhitdinov RS. Significance of the hadith of the Prophet Muhammad in Kazakh proverbs and sayings. *Proced Social Behav Sci* 116:4899–4904. doi:10.1016/j.sbspro.2014.01.1046, 2014. 3. Ibrahim, N. K., Noordin, M. F., Samsuri, S., Seman, M. S. A., & Ali, A. E. B. Isnad Al-Hadith Computational Authentication: An Analysis Hierarchically. In *Information and Communication Technology for The Muslim World (ICT4M)*, 2016...

[View all](#) 

Hadith data mining and classification: a comparative analysis

Saloot, M.A. , Idris, N. , Mahmud, R. (2016) *Artificial Intelligence Review*

[View all related documents based on references](#)

[Find more related documents in Scopus based on:](#)

[Authors](#) > [Keywords](#) >

ISSN: 22783091

Source Type: Journal

Original language: English




DOI: 10.30534/ijatcse/2020/262942020

Document Type: Article

Publisher: World Academy of Research in Science and Engineering

## References (34)

[View in search results format](#) >

All [Export](#)  [Print](#)  [E-mail](#)  [Save to PDF](#) [Create bibliography](#)

- 1 Ibn, Hajar al-ʿAsqalānī, Murad, A. (2000) *Selections from the Fath al-Bārī*. (commentary on *Ṣaḥīḥ al-Bukhārī*) followed by twenty fatwas on life after death Cambridge: Muslim Academic Trust

- 
- 2 Batyrzhan, M, Kulzhanova, BR, Abzhalov, SU, Mukhitdinov, RS.  
Significance of the hadith of the Prophet Muhammad in Kazakh proverbs and sayings  
(2014) *Proced Social Behav Sci*, 116, pp. 4899-4904. Cited 4 times.

- 
- 3 Ibrahim, N.K., Noordin, M.F., Samsuri, S., Seman, M.S.A., Ali, A.E.B.  
**Isnad Al-hadith computational authentication: An analysis hierarchically**  
  
(2016) *Proceedings - 6th International Conference on Information and Communication Technology for the Muslim World, ICT4M 2016*, art. no. 7814928, pp. 344-349. Cited 3 times.  
ISBN: 978-150904521-1  
doi: 10.1109/ICT4M.2016.68  
  
View at Publisher

- 
- 4 Ibrahim, N., Noordin, M., Samsuri, S., Abu Seman, M., Ali, A., Hasan Basari, A.  
A Review and Analysis for A Hierarchy from Computational Hadith to Isnad Authenticity Examination  
(2017) *International Journal On Islamic Applications In Computer Science And Technology*, 5 (3).  
Retrieved from a  
<http://www.sign-ific-ance.co.uk/index.php/IJASAT/article/view/1686>

- 
- 5 Eljazzar, M. M., Abdulhamid, M., Mouneer, M., Salama, A.  
(2017) *Hadith Web Browser Verification Extension*  
arXiv preprint arXiv:1701.07382
-

- 
- 6 Ibrahim, N. K., Ali, A. E. B., Samsuri, S., Seman, A., Sadry, M., Kartiwi, M., Samad, A.  
Takhreej e-Guide: an innovation of electronic guide for Takhreej Al-Isnad Al-Hadith-based on physical structure of Isnad and principles of Hadith science  
(2017) *Advanced Materials Research*, pp. 129-131.  
(na), b

- 
- 7 Aldhlan, K.A., Zeki, A.M., Zeki, A.M.  
Datamining and Islamic knowledge extraction: Alhadith as a knowledge resource  
  
(2010) *Proceeding of the 3rd International Conference on Information and Communication Technology for the Moslem World: ICT Connecting Cultures, ICT4M 2010*, art. no. 5971934, pp. H21-H25. Cited 11 times.  
ISBN: 978-979194891-3  
doi: 10.1109/ICT4M.2010.5971934

[View at Publisher](#)

- 
- 8 Abd Rahman, N., Alias, N., Ismail, N.K., Bin Mohamed Nor, Z., Alias, M.N.B.  
An identification of authentic narrator's name features in Malay hadith texts  
  
(2015) *ICOS 2015 - 2015 IEEE Conference on Open Systems*, art. no. 7377282, pp. 79-84. Cited 9 times.  
ISBN: 978-146739434-5  
doi: 10.1109/ICOS.2015.7377282

[View at Publisher](#)

---

---

9 Alias, N., Rahman, N. A., Ismail, N. K., Nor, Z. M., Alias, M. N.  
Searching Algorithm of Authentic Chain of Narrators  
(2016)  
Shahih Bukhari Book

---

10 Alias, N., Rahman, N.A., Ismail, N.K., Nor, Z.M., Alias, M.N.  
Graph-based text representation for Malay translated hadith text  
  
(2016) *2016 3rd International Conference on Information Retrieval and Knowledge Management, CAMP 2016 - Conference Proceedings*, art. no. 7806336, pp. 60-66. Cited 6 times.  
ISBN: 978-150902954-9  
doi: 10.1109/INFRKM.2016.7806336  
  
[View at Publisher](#)

---

11 Alias, N., Rahman, N. A., Ismail, N. K., Nor, Z. M., Alias, M. N.  
Pengkelasan Teks Hadis dalam Kitab Shahih Bukhari berdasarkan kepada Perawi dengan menggunakan Teori Graf  
(2016) , pp. 61-65. Cited 4 times.  
Persidangan Autentikasi Al-Quran dan Al-Hadith (SAHIH)

---

12 Rahman, N. A., Ismail, N. K., Nor, Z. M., Alias, M. N., Kamis, M. S., Alias, N.  
Tagging narrator's names in Hadith text  
(2017) *Journal of Fundamental and Applied Sciences*, 9 (5S), pp. 295-309. Cited 2 times.

---

- 
- 13 Mohammad Najib, S.R., Abd Rahman, N., Kamal Ismail, N., Alias, N., Mohamed Nor, Z., Alias, M.N.  
Comparative Study of Machine Learning Approach on Malay Translated Hadith Text Classification based on Sanad ([Open Access](#))

(2017) *MATEC Web of Conferences*, 135, art. no. 00066. Cited 6 times.

<http://www.matec-conferences.org/>

doi: 10.1051/mateconf/201713500066

[View at Publisher](#)

---

- 14 Luthfi, E.T., Suryana, N., Basari, A.H.  
Digital hadith authentication: A literature review and analysis

(2018) *Journal of Theoretical and Applied Information Technology*, 96 (15), pp. 5054-5068. Cited 5 times.

[www.jatit.org/index.php](http://www.jatit.org/index.php)

---

- 15 Mahmood, A., Khan, H.U., Alarfaj, F.K., Ramzan, M., Ilyas, M.  
A multilingual datasets repository of the Hadith content ([Open Access](#))

(2018) *International Journal of Advanced Computer Science and Applications*, 9 (2), pp. 165-172. Cited 9 times.

[http://thesai.org/Downloads/Volume9No2/Paper\\_24-A\\_Multilingual\\_Datasets\\_Repository.pdf](http://thesai.org/Downloads/Volume9No2/Paper_24-A_Multilingual_Datasets_Repository.pdf)

doi: 10.14569/IJACSA.2018.090224

[View at Publisher](#)

---

- 16 Aldhlan, K. A., Zeki, A. M., Zeki, A. M.  
(2011) *Enhanced mechanism to handle missing data of Hadith classifier*
-

- 
- 17 Aldhaln, K., Zeki, A., Zeki, A., Alreshidi, H.

Improving knowledge extraction of Hadith classifier using decision tree algorithm

(2012) *Proceedings - 2012 International Conference on Information Retrieval and Knowledge Management, CAMP'12*, art. no. 6205024, pp. 148-152. Cited 12 times.

ISBN: 978-146731090-1

doi: 10.1109/InfRKM.2012.6205024

[View at Publisher](#)

---

- 18 Aldhlan, K.A., Zeki, A.M., Zeki, A.M., Alreshidi, H.A.

Novel mechanism to improve hadith classifier performance

(2013) *Proceedings - 2012 International Conference on Advanced Computer Science Applications and Technologies, ACSAT 2012*, art. no. 6516408, pp. 512-517. Cited 13 times.

ISBN: 978-076954959-0

doi: 10.1109/ACSAT.2012.93

[View at Publisher](#)

---

- 19 Aldhaln, K. A., Zeki, A. M., Zeki, A. M.

Knowledge extraction in hadith using data mining technique

(2012) *Int J Inf Technol Comput Sci*, 2, pp. 13-21. Cited 14 times.

---



- 
- 20 Ibrahim, N.K., Samsuri, S., Seman, M.S.A., Ali, A.E.B., Kartiwi, M.

Frameworks for a computational isnad authentication and mechanism development

(2016) *Proceedings - 6th International Conference on Information and Communication Technology for the Muslim World, ICT4M 2016*, art. no. 7814894, pp. 154-159. Cited 2 times.

ISBN: 978-150904521-1

doi: 10.1109/ICT4M.2016.36

[View at Publisher](#)

---

- 21 Ibrahim, N., Samsuri, S., Abu Seman, M., Ali, A., Kartiwi, M., Basari, A.

Design and Frameworks with Experiment for A Basic Guide of Theoretical Isnad Al-hadith Authenticity Examination

(2017) *International Journal On Islamic Applications In Computer Science And Technology*, 5 (3).

Retrieved from c. <https://doi.org/10.4314/jfas.v9i5s.21>

<http://www.sign-ific-ance.co.uk/index.php/IJASAT/article/view/1685>

---

- 22 Melchert, C.

Early renunciants as Hadīth transmitters

(2002) *Muslim World*, 92 (3-4), pp. 407-418. Cited 15 times.

<http://www.blackwellpublishing.com>

doi: 10.1111/j.1478-1913.2002.tb03750.x

[View at Publisher](#)

---

---

23 Joachims, T.

Text categorization with support vector machines: Learning with many relevant features

(1998) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 1398, pp. 137-142. Cited 3829 times.

[http://www.558\\_978-3-540-69781-7\\_Chapter\\_19.pdf](http://www.558_978-3-540-69781-7_Chapter_19.pdf)

ISBN: 3540644172; 978-354064417-0

doi: 10.1007/s13928716

[View at Publisher](#)

---

24 Yang, Y., Liu, X.

A re-examination of text categorization methods

(1999) *Proceedings of the 22nd Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR 1999*, pp. 42-49. Cited 1824 times.

ISBN: 1581130961; 978-158113096-6

doi: 10.1145/312624.312647

[View at Publisher](#)

---

25 Mining, W. I. D.

(2006) *Data Mining: Concepts and Techniques*. Cited 260 times.

Morgan Kaufmann

---

- 
- 26 Hand, D.J.

Principles of data mining

(2007) *Drug Safety*, 30 (7), pp. 621-622. Cited 111 times.

<http://drugsafety.adisonline.com/pt/re/drs/pdfhandler.00002018-200730070-00010.pdf;jsessionid=GPGpqSt4bbP4S3JmrLwMS1kwpMbwdDs1NPNvYD3XF3dvGmzvdY2!185509786!181195628!8091!-1>  
doi: 10.2165/00002018-200730070-00010

[View at Publisher](#)

---

- 27 Kotu, V., Deshpande, B.

(2015) *Predictive analytics and data mining*. Cited 58 times.

Waltham, MA: Morgan Kaufmann

---

- 28 *What is machine learning (ML)?-Definition from WhatIs.com*

Search Enterprise AI. [online] [Accessed 1 Aug. 2018]

<https://searchenterpriseai.techtarget.com/definition/machine-learning-ML>

---

- 29 Brownlee, J.

*Supervised and Unsupervised Machine Learning Algorithms*. [online] *Machine Learning Mastery*

[Accessed 8 Aug. 2018]

<https://machinelearningmastery.com/supervised-and-unsupervised-machine-learningalgorithms/>

---

---

30 *Naive Bayes Classifier*. Cited 239 times.  
Statsoft.com. [online] [Accessed 8 Aug. 2018]  
<http://www.statsoft.com/textbook/naive-bayes-classifier>

---

31 Al-Kabi, M. N., AL-Shalabi  
ALHadith Text Classifier  
(2005) *Journal of applied sciences*, 5 (3), pp. 548-587. Cited 12 times.  
<https://doi.org/10.3923/jas.2005.584.587>

---

32 Alkhatib, M.  
Classification of Al-Hadith Al-Shareef using data mining algorithm  
  
(2010) *Proceedings of the European, Mediterranean and Middle Eastern Conference on Information Systems: Global Information Systems Challenges in Management, EMCIS 2010*. Cited 10 times.  
ISBN: 978-190231680-2

---

33 Jbara, K.  
Knowledge discovery in Al-Hadith using text classification algorithm  
(2010) *Journal of American Science*, 6 (11), pp. 409-419. Cited 22 times.

---

34 Al-Kabi, M. N., Wahsheh, H. A., Alsmadi, I. M., Moh'd Ali Al-Akhras, A.  
Extended Topical Classification of Hadith Arabic Text  
(2015) *Int. J. on Islamic Applications in Computer Science and Technology*, 3 (3), pp. 13-23. Cited 8 times.

---

## About Scopus

[What is Scopus](#)

[Content coverage](#)

[Scopus blog](#)

[Scopus API](#)

[Privacy matters](#)

## Language

[日本語に切り替える](#)

[切换到简体中文](#)

[切换到繁體中文](#)

[Русский язык](#)

## Customer Service

[Help](#)

[Contact us](#)

**ELSEVIER**

[Terms and conditions ↗](#) [Privacy policy ↗](#)

Copyright © Elsevier B.V. ↗. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the use of cookies.

 RELX