Brought to you by INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

Scopus Search Sources Lists SciVal ↗ Create account Sign in

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

Advances in Intelligent Systems and Computing
Volume 944, 2020, Pages 638-651
Computer Vision Conference, CVC 2019; Las Vegas; United States; 25 April 2019 through 26 April 2019; Code 225589

XMIAR: X-ray Medical Image Annotation and Retrieval (Conference Paper)

Abdulrazzaq, M.M.[a], Yaseen, I.F.T.[a], Noah, S.A.[b], Fadhil, M.A.[c], Ashour, M.U.[d]

[a]KICT, International Islamic University Malaysia, Gombak, Selangor, Malaysia
[b]FTSM, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia
[c]IT, Philadelphia University Jordan, Jerash, Jordan

View additional affiliations

Abstract

View references (30)

The huge development of the digitized medical image has been steered to the enlargement and research of the Content Based Image Retrieval (CBIR) systems. Those systems retrieve and extract the images by their own low level features, like texture, shape and color. But those visual features did not aloe the users to request images by the semantic meanings. The image annotation or classification systems can be considered as the solution for the limitations of the CBIR, and to reduce the semantic gap, this has been aimed annotating or to make the classification of the image with few controlled keywords. In this paper, we suggest a new hierarchal classification for the X-ray medical image using the machine learning techniques, which are called the Support Vector Machine (SVM) and k-Nearest Neighbour (k-NN). Hierarchy classification design was proposed based on the main body region. Evaluation was conducted based on ImageCLEF2005 database. The obtained results in this research were improved compared to the previous related studies. © 2020, Springer Nature Switzerland AG.

SciVal Topic Prominence

Topic: Image Retrieval | Clef | Caption

Prominence percentile: 92.265

Author keywords

Machine learning | Medical image analysis | Support vector machines

Indexed keywords

Engineering controlled terms: Computer vision | Content based retrieval | Image analysis | Learning systems | Machine learning | Medical imaging | Nearest neighbor search | Search engines | Semantics | Support vector machines | Textures | X rays

Metrics

View all metrics ›

1 Citation in Scopus
95th percentile

5.25 Field-Weighted Citation Impact

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

Cited by 1 document

COVID-19 identification in chest X-ray images on flat and hierarchical classification scenarios
Pereira, R.M. , Bertolini, D. , Teixeira, L.O.
(2020) Computer Methods and Programs in Biomedicine

View details of this citation

Inform me when this document is cited in Scopus:

Set citation alert ›

Set citation feed ›

Related documents

Multi-level of feature extraction and classification for X-ray medical image
Abdulrazzaq, M.M. , Yaseen, I.F.T. , Noah, S.A.
(2018) Indonesian Journal of Electrical Engineering and Computer Science

Scopus will be redesigning this page. We'd like your opinion!

X-Ray Medical Image Classification Based on Multi Classifiers

Engineering uncontrolled terms: Classification system | Contentbased image retrieval (CBIR) system | K nearest neighbours (k-NN) | Low-level features | Machine learning techniques | Semantic gap | Visual feature | X-ray medical images

Engineering main heading: Image annotation

ISSN: 21945357
ISBN: 978-303017797-3
Source Type: Book Series
Original language: English
DOI: 10.1007/978-3-030-17798-0_51
Document Type: Conference Paper
Volume Editors: Kapoor S.,Arai K.
Publisher: Springer Verlag

References (30)

View in search results format >

All | Export | Print | E-mail | Save to PDF | Create bibliography

1 Muller, H., Deserno, T.M.
Content-based medical image retrieval
(2011) *Biomedical Image Processing. Biological and Medical Physics, Biomedical Engineering*, pp. 471-494. Cited 22 times.
pp., Springer, Heidelberg

2 Fan, J., Gao, Y., Luo, H.
Hierarchical classification for automatic image annotation
(2007) *Proceedings of the 30th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR'07*, pp. 111-118. Cited 57 times.
ISBN: 1595935975; 978-159593597-7
doi: 10.1145/1277741.1277763
View at Publisher

3 Fan, J., Gao, Y., Luo, H., Jain, R.
Mining multilevel image semantics via hierarchical classification
(2008) *IEEE Transactions on Multimedia*, 10 (2), pp. 167-187. Cited 77 times.
doi: 10.1109/TMM.2007.911775
View at Publisher

4 Weng, Q.
Remote sensing of impervious surfaces in the urban areas: Requirements, methods, and trends
(2012) *Remote Sensing of Environment*, 117, pp. 34-49. Cited 593 times.
doi: 10.1016/j.rse.2011.02.030
View at Publisher

Abdulrazzaq, M.M. , Noah, S.A. , Fadhil, M.A.
(2016) Proceedings - 2015 4th International Conference on Advanced Computer Science Applications and Technologies, ACSAT 2015

Improving the annotation accuracy of medical images in ImageCLEFmed2005 using K-Nearest Neighbor (kNN) classifier

Abdulrazzaq, M.M. , Noah, S.A.
(2015) Asian Journal of Applied Sciences

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

Scopus will be redesigning this page. We'd like your opinion!

5 Dimitrovski, I., Kocev, D., Loskovska, S., Džeroski, S.
Hierarchical annotation of medical images

(2011) *Pattern Recognition*, 44 (10-11), pp. 2436-2449. Cited 64 times.
doi: 10.1016/j.patcog.2011.03.026

View at Publisher

6 Fesharaki, N., Pourghassem, H.
Medical X-ray Image Hierarchical Classification Using a Merging and Splitting Scheme in Feature Space (Open Access)

(2013) *Journal of Medical Signals and Sensors*, 3 (3), pp. 150-163. Cited 6 times.
http://www.jmss.mui.ac.ir/index.php/jmss/index
doi: 10.4103/2228-7477.120984

View at Publisher

7 Liu, F., Shi, J., Jiao, L., Liu, H., Yang, S., Wu, J., Hao, H., (...), Yuan, J.
Hierarchical semantic model and scattering mechanism based PolSAR image classification

(2016) *Pattern Recognition*, 59, pp. 325-342. Cited 29 times.
www.elsevier.com/inca/publications/store/3/2/8/
doi: 10.1016/j.patcog.2016.02.020

View at Publisher

8 Zhao, S., Zou, Q.
Fusing multiple hierarchies for semantic hierarchical classification
(2016) *Int. J. Mach. Learn. Comput.*, 6 (1), pp. 47-51.

9 Müller, H., Michoux, N., Bandon, D., Geissbuhler, A.
A review of content-based image retrieval systems in medical applications - Clinical benefits and future directions

(2004) *International Journal of Medical Informatics*, 73 (1), pp. 1-23. Cited 1135 times.
www.elsevier.com/inca/publications/store/5/0/6/0/4/0/
doi: 10.1016/j.ijmedinf.2003.11.024

View at Publisher

10 Hersh, W., Kalpathy-Cramer, J., Jensen, J.
Medical image retrieval and automated annotation: OHSU at ImageCLEF 2006

(2007) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 4730 LNCS, pp. 660-669. Cited 12 times.
https://www.springer.com/series/558
ISBN: 978-354074998-1
doi: 10.1007/978-3-540-74999-8_81

View at Publisher

Scopus will be redesigning this page. We'd like your opinion!

11 Clough, P., Müller, H., Deselaers, T., Grubinger, M., Lehmann, T.M., Jensen, J., Hersh, W.
The CLEF 2005 cross-language image retrieval track

(2006) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 4022 LNCS, pp. 535-557. Cited 54 times.
https://www.springer.com/series/558
ISBN: 354045697X; 978-354045697-1
doi: 10.1007/11878773_60

View at Publisher

12 Deselaers, T., Müller, H., Clough, P., Ney, H., Lehmann, T.M.
The CLEF 2005 automatic medical image annotation task

(2007) *International Journal of Computer Vision*, 74 (1), pp. 51-58. Cited 54 times.
doi: 10.1007/s11263-006-0007-y

View at Publisher

13 Amaral, I.F.A.
Content-Based image retrieval for medical applications. Master thesis. Faculty of Science
(2010) *University of Porto*
Accessed 10 Mar 2014
http://www.inescporto.pt/*jsc/students/2010IgorAmaral/2010relatorioIgorAmaral.pdf

14 Qiu, B., Tian, Q., Xu, C.S.
Report on the annotation task in ImageCLEFmed 2005
(2005) *Cross Language Evaluation Forum*, p. 2005. Cited 5 times.
Workshop, Vienna, Austria

15 Weng, Q.
Remote sensing of impervious surfaces in the urban areas: Requirements, methods, and trends

(2012) *Remote Sensing of Environment*, 117, pp. 34-49. Cited 593 times.
doi: 10.1016/j.rse.2011.02.030

View at Publisher

16 Sohail, A.S.Md., Bhattacharya, P., Mudur, S.P., Krishnamurthy, S., Gilbert, L.
Content-based retrieval and classification of ultrasound medical images of ovarian cysts (Open Access)

(2010) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 5998 LNAI, pp. 173-184. Cited 6 times.
ISBN: 3642121586; 978-364212158-6
doi: 10.1007/978-3-642-12159-3_16

View at Publisher

17 Othman, M.F.B., Abdullah, N.B., Kamal, N.F.B.
MRI brain classification using support vector machine

(2011) *2011 4th International Conference on Modeling, Simulation and Applied Optimization, ICMSAO 2011*, art. no. 5775605. Cited 23 times.
ISBN: 978-145770005-7
doi: 10.1109/ICMSAO.2011.5775605

View at Publisher

Scopus will be redesigning this page. We'd like your opinion!

18 Rajini, N.H., Bhavani, R.
Classification of MRI brain images using k-nearest neighbor and artificial neural network

(2011) *International Conference on Recent Trends in Information Technology, ICRTIT 2011*, art. no. 5972341, pp. 863-868. Cited 37 times.
ISBN: 978-145770588-5
doi: 10.1109/ICRTIT.2011.5972341

View at Publisher

19 Fesharaki, N.J., Pourghassem, H.
Medical X-ray images classification based on shape features and bayesian rule

(2012) *Proceedings - 4th International Conference on Computational Intelligence and Communication Networks, CICN 2012*, art. no. 6375135, pp. 369-373. Cited 17 times.
doi: 10.1109/CICN.2012.145

View at Publisher

20 Ghofrani, F., Helfroush, M.S., Danyali, H., Kazemi, K.
Medical X-ray image classification using Gabor-based CS-local binary patterns
(2012) *Proceedings International Conference on Electronics, Biomedical Engineering and Its Applications, Dubai*, pp. 284-288. Cited 6 times.
pp

21 Mohammadi, S.M., Helfroush, M.S., Kazemi, K.
Novel shape-texture feature extraction for medical x-ray image classification

(2012) *International Journal of Innovative Computing, Information and Control*, 8 (1 B), pp. 658-676. Cited 12 times.

22 Charde, P.A., Lokhande, S.D.
Classification using K nearest neighbor for brain image retrieval
(2013) *Int. J. Sci. Eng. Res.*, 4 (8), pp. 760-765. Cited 6 times.

23 Zare, M.R., Seng, W.C., Mueen, A.
Automatic classification of medical X-ray images

(2013) *Malaysian Journal of Computer Science*, 26 (1), pp. 9-22. Cited 18 times.
http://ejum.fsktm.um.edu.my/article/1343.pdf

24 Bhuvaneswari, C., Aruna, P., Loganathan, D.
A new fusion model for classifi cation of the lung diseases using genetic algorithm
(Open Access)

(2014) *Egyptian Informatics Journal*, 15 (2), pp. 69-77. Cited 19 times.
http://www.elsevier.com/wps/find/journaldescription.cws_home/723777/description#description
doi: 10.1016/j.eij.2014.05.001

View at Publisher

Scopus will be redesigning this page. We'd like your opinion!

25 Nandpuru, H.B., Salankar, S.S., Bora, V.R.
MRI brain cancer classification using support vector machine

(2014) *2014 IEEE Students' Conference on Electrical, Electronics and Computer Science, SCEECS 2014*, art. no. 6804439. Cited 43 times.
doi: 10.1109/SCEECS.2014.6804439

View at Publisher

26 Lehmann, T.M., Schubert, H., Ott, B., Leisten, M.
ImageCLEF2005
(2005) *Library*
Accessed 30 July 2013
http://ganymed.imib.rwth-aachen.de/irma/

27 Abdulrazzaq, M.M., Yaseen, I.F.T., Noah, S.A., Fadhil, M.A.-A.
Multi-level of feature extraction and classification for X-ray medical image
(Open Access)

(2018) *Indonesian Journal of Electrical Engineering and Computer Science*, 10 (1), pp. 154-167. Cited 4 times.
http://www.iaescore.com/journals/index.php/IJEECS/article/download/11066/8196
doi: 10.11591/ijeecs.v10.i1.pp154-167

View at Publisher

28 Abdulrazzaq, M.M., Noah, S.A., Fadhil, M.A.
X-Ray Medical Image Classification Based on Multi Classifiers

(2015) *Proceedings - 2015 4th International Conference on Advanced Computer Science Applications and Technologies, ACSAT 2015*, art. no. 7478747, pp. 218-223. Cited 2 times.
ISBN: 978-150900424-9
doi: 10.1109/ACSAT.2015.45

View at Publisher

29 Abdulrazzaq, M.M., Mohd, S.A., Fadhil, M.A.
Medical image annotation and retrieval by using classification techniques

(2014) *Proceedings - 3rd International Conference on Advanced Computer Science Applications and Technologies, ACSAT 2014*, art. no. 07076865, pp. 32-36. Cited 3 times.
ISBN: 978-147991845-4
doi: 10.1109/ACSAT.2014.13

View at Publisher

30 Smeulders, A.W.M., Worring, M., Santini, S., Gupta, A., Jain, R.
Content-based image retrieval at the end of the early years

(2000) *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 22 (12), pp. 1349-1380. Cited 4552 times.
doi: 10.1109/34.895972

View at Publisher

Abdulrazzaq, M.M.; KICT, International Islamic University Malaysia, Gombak, Selangor, Malaysia;
email:eng.alobaydee81@gmail.com
© Copyright 2019 Elsevier B.V., All rights reserved.

Scopus will be redesigning this page. We'd like your opinion!

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

Scopus will be redesigning this page. We'd like your opinion!