

8 documents have cited:

A Multistage Transfer Learning Approach for Acute Lymphoblastic Leukemia Classification

Maaliw R.R., Alon A.S., Lagman A.C., Garcia M.B., Susa J.A.B., Reyes R.C., Fernando-Raguro M.C., Hernandez A.A.

(2022) 2022 IEEE 13th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference, UEMCON 2022, , pp. 488-495.

[◀ Back to results](#) | [◀ Previous](#) 7 of 8 [Next ▶](#)
[Download](#) [Print](#) [Save to PDF](#) [Add to List](#) [Create bibliography](#)
2023 2nd International Conference on Smart Technologies and Systems for Next Generation Computing, ICSTSN 2023 • 2023 • 2nd International Conference on Smart Technologies and Systems for Next Generation Computing, ICSTSN 2023 • Villupuram • 21 April 2023 through 22 April 2023 • Code 189663

Conference Paper

Conference Proceedings

ISBN

979-835034800-2

DOI

10.1109/ICSTNSN57873.2023.1015157

[View more ▾](#)

An Investigational Study of Detecting Acute Lymphoblastic Leukemia using Computer Vision

 Ashok M.^a  ; Tharani K.^a  ; Venkatasriram S.^a 

 Ramasamy, Kumar^b 
[Save all to author list](#)
^a Rajalakshmi Institute of Technology, Department of Computer Science and Engineering, Chennai, India

^b Knowledge Institute of Technology, Department of Computer Science and Engineering, Salem, India

[Full text options ▾](#)
[Export ▾](#)

Cited by 0 documents

Inform me when this document is cited in Scopus:

[Set citation alert >](#)

Related documents

[Deep Learning for the Detection of Acute Lymphoblastic Leukemia Subtypes on Microscopic Images: A Systematic Literature Review](#)

Mustaqim, T., Fatichah, C., Suciati, N. (2023) *IEEE Access*

[Acute Lymphoblastic Leukemia Detection Challenges and Systematic Review](#)

Abirami, M., George, G.V.S., Sam, D. (2023) *Proceedings - 5th International Conference on Smart Systems and Inventive Technology, ICSSIT 2023*

[Acute Lymphoblastic Leukemia Detection Using Transfer Learning Techniques](#)

Ananthu, K.S., Krishna Prasad, P., Nagarajan, S. (2022) *Lecture Notes in Networks and Systems*

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

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

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

Abstract

[Author keywords](#)
[Indexed keywords](#)
[SciVal Topics](#)
[SciVal topics](#)

Abstract

Among all divesting cancers, Hematologists predict that the Leukemia is mostly occur on the children, teenagers, and young adults. Moreover 85% of cancer cases are detected younger than the age of 15. Due to a Genetic abnormality in the bone marrow, Acute lymphoblastic leukemia (ALL) is particularly susceptible to life-threatening infections. The laboratory method to detect the ALL is prolonged and slow process. Reviewing prior research on detection methods in ALL is the goal of this study. This review includes (a) the parameters necessary for the ALL detection (b) methods involved in the detection process (c) which algorithms gives the accurate prediction and (d) finally all the necessary context for the detection of the ALL-affected cells. The proposed system possesses the automated machine learning (Chabot) approach used to categorize the infected and healthy cells in the blood smears (microscopic images) in order to detect ALL. The Blood smears are converted into the CMYK color space and separated into clusters using K-means Algorithm. A cell from each cluster is picked and detected whether the cell is affected with ALL or not using the nuclei of the cell using supervised learning algorithm like SVM, XGBoost Classifier, Etc., The proposed system aids in enhancing the acute lymphoblastic leukemia detection system. © 2023 IEEE.

Author keywords

ALL; Blood smears; DNA Mutation

Indexed keywords

SciVal Topics

[SciVal topics](#)
[References \(34\)](#)
[View in search results format >](#)
[All](#)
[Export](#)
[Print](#)
[E-mail](#)
[Save to PDF](#)
[Create bibliography](#)

- 1 Abdeldaim, A., Talaat, A., Elhoseny, M., Hassanan, A.E. (2018) *Computer-Aided Acute Lymphoblastic Leukemia Diagnosis System Based on Image Analysis* Jan

- Scival topics
-
- 2 Ranjitha, P., Sudharshan Duth, P.
Detection of blood cancer-leukemia using K-means algorithm
(2021) *Proceedings - 5th International Conference on Intelligent Computing and Control Systems, ICICCS 2021*, art. no. 9432244, pp. 838-842. Cited 8 times.
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9432068>
ISBN: 978-166541272-8
doi: 10.1109/ICICCS51141.2021.9432244
[View at Publisher](#)
-
- 3 Patel, S.D., Degadwala, S., Mahajan, A.
A Review on Acute Lymphoblastic Leukemia Classification Based on Hybrid Low Level Features (Open Access)
(2020) *Proceedings of the 4th International Conference on Computing Methodologies and Communication, ICCMC 2020*, art. no. 9076529.
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9070072>
ISBN: 978-172814889-2
doi: 10.1109/ICCMC48092.2020.ICCMC-00031
[View at Publisher](#)
-
- 4 Mou, A.D., Hasan, M.W., Saha, P.K., Priom, N.A.R., Saha, A.
Prediction and rule generation for leukemia using decision tree and association rule mining
(2020) *Proceedings of 2020 11th International Conference on Electrical and Computer Engineering, ICECE 2020*, art. no. 9393069, pp. 133-136. Cited 2 times.
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9393009>
ISBN: 978-166542254-3
doi: 10.1109/ICECE51571.2020.9393069
[View at Publisher](#)
-
- Scival topics
-
- 5 Elrefaei, R.M., Marzouk, E.A., Mohamed, M.A., Ata, M.M.
Supervised Acute Lymphocytic Leukemia Detection and Classification Based - Empirical Mode Decomposition (Open Access)
(2022) *International Telecommunications Conference, ITC-Egypt 2022 - Proceedings*
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9855646>
ISBN: 978-166548808-2
doi: 10.1109/ITC-Egypt55520.2022.9855700
[View at Publisher](#)
-
- Scival topics
-
- 6 Kandhari, R., Bhan, A., Bhatnagar, P., Goyal, A.
Computer based diagnosis of Leukemia in blood smear images
(2021) *Proceedings of the 3rd International Conference on Intelligent Communication Technologies and Virtual Mobile Networks, ICICV 2021*, art. no. 9388546, pp. 1462-1466. Cited 3 times.
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9388249>
ISBN: 978-073811183-4
doi: 10.1109/ICCV50876.2021.9388546
[View at Publisher](#)
-
- 7 Safuan, S.N.M., Tomari, M.R.M., Zakaria, W.N.W., Othman, N., Suriani, N.S.
Computer Aided System (CAS) of Lymphoblast Classification for Acute Lymphoblastic Leukemia (ALL) Detection Using Various Pre-Trained Models
(2020) *2020 IEEE Student Conference on Research and Development, SCOReD 2020*, art. no. 9251000, pp. 411-415. Cited 7 times.
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9250744>
ISBN: 978-172819317-5
doi: 10.1109/SCOReD50371.2020.9251000
[View at Publisher](#)
-
- Scival topics
- 8 Maaliw, R.R., Alon, A.S., Lagman, A.C., Garcia, M.B., Susa, J.A.B., Reyes, R.C., Fernando-Raguro, M.C., (...), Hernandez, A.A.
A Multistage Transfer Learning Approach for Acute Lymphoblastic Leukemia Classification

(2022) 2022 IEEE 13th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference, UEMCON 2022, pp. 488-495. Cited 8 times.
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9965569>
ISBN: 978-166549299-7
doi: 10.1109/UEMCON54665.2022.9965679

[View at Publisher](#)

- 9 Vieira, G., Eduardo Valle, M.
Acute Lymphoblastic Leukemia Detection Using Hypercomplex-Valued Convolutional Neural Networks

Scival topics

(2022) *Proceedings of the International Joint Conference on Neural Networks*, 2022-July. Cited 3 times.
ISBN: 978-172818671-9
doi: 10.1109/IJCNN55064.2022.9892036

[View at Publisher](#)

- 10 Yusuf, M., Muntas, A., Damayanti, F.
Fusion of the Color Channels Using Densitometry for an Acute Lymphoblastic Leukemia Detection

(2019) *Proceedings of 2019 4th International Conference on Sustainable Information Engineering and Technology, SIET 2019*, art. no. 8986114, pp. 135-141.
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=8966520>
ISBN: 978-172813878-7
doi: 10.1109/SIET48054.2019.8986114

[View at Publisher](#)

- 11 Mishra, S., Majhi, B., Sa, P.K.
Texture feature based classification on microscopic blood smear for acute lymphoblastic leukemia detection

(2019) *Biomedical Signal Processing and Control*, 47, pp. 303-311. Cited 84 times.
http://www.elsevier.com.mapua.idm.oclc.org/wps/find/journalbibliographicinfo.cws_home/706718/description#bibliographicinfo
doi: 10.1016/j.bspc.2018.08.012

[View at Publisher](#)

- 12 Ramaneswaran, S., Srinivasan, K., Vincent, P.M.D.R., Chang, C.-Y.
Hybrid Inception v3 XGBoost Model for Acute Lymphoblastic Leukemia Classification

(2021) *Computational and Mathematical Methods in Medicine*, 2021, art. no. 2577375. Cited 24 times.
<http://www.hindawi.com/journals/cmmm/>
doi: 10.1155/2021/2577375

[View at Publisher](#)

Scival topics

- 13 Genovese, A.
ALLNet: Acute Lymphoblastic Leukemia Detection Using Lightweight Convolutional Networks (Open Access)

(2022) *CIVEMSA 2022 - IEEE International Conference on Computational Intelligence and Virtual Environments for Measurement Systems and Applications, Proceedings*. Cited 2 times.
<http://ieeexplore.ieee.org.mapua.idm.oclc.org/xpl/mostRecentIssue.jsp?punumber=9853638>
ISBN: 978-166543445-4
doi: 10.1109/CIVEMSA53371.2022.9853691

[View at Publisher](#)

- 14 Genovese, A., Hosseini, M.S., Piuri, V., Plataniotis, K.N., Scotti, F.
Acute lymphoblastic leukemia detection based on adaptive unsharpening and deep learning

(2021) *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*, 2021-June, art. no. 9414362, pp. 1205-1209. Cited 31 times.
doi: 10.1109/ICASSP39728.2021.9414362

[View at Publisher](#)

Scival topics

- 15 Magpantay, L.D.C., Alon, H.D., Austria, Y.D., Melegrito, M.P., Fernando, G.J.O.
A Transfer Learning-Based Deep CNN Approach for Classification and Diagnosis of Acute Lymphocytic Leukemia Cells