СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ

1) Text Detection Design Based on Deep Neural Network Xu Wei, Ding Manna, Wang Weihang_ICASIT 2020: Proceedings of the 2020 International Conference on Aviation Safety and Information Technology Pages 638 – 642

2) An ML–aided Approach to Automatically Generate Schematic Symbols in PCB EDA Tools. Shiyu Gao, Keni Qiu MLCAD '24: Proceedings of the 2024 ACM/IEEE International Symposium on Machine Learning for CAD Article No.: 6, Pages 1–7 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3670474.3685944

3) Implementing the Tesseract Method for Information Extraction from Images Abrar AI Sayem, Asiful Islam Chowdhury, Shahriar Hossain Shojol, ICCTA '23: Proceedings of the 2023 9th International Conference on Computer Technology Applications Pages 97–101 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3605423.3605431

4) Automatic identification system of aircraft cockpit indicators based on machine vision Jiaqing Yao, Renwen Chen, Yijun Huang AISS '22: Proceedings of the 4th International Conference on Advanced Information Science and SystemArticle No.: 63, Pages 1–9 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3573834.3574549

5) Target Text Location for Vehicle Inspection Based on Template Matching ZiWei Wang, Xinfeng Zhang, Xun Zhao, Hui Li ICCPR '20: Proceedings of the 2020 9th International Conference on Computing and Pattern RecognitionPages 344–349 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3436369.3436475

6) Object detection for graphical user interface: old fashioned or deep learning or a combination? Jieshan Chen, Mulong Xie, Zhenchang Xing, Chunyang Chen, Xiwei Xu ESEC/FSE 2020: Proceedings of the 28th ACM Joint Meeting on European Software

Engineering Conference and Symposium on the Foundations of Software EngineeringPages 1202–1214 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3368089.3409691

7) Tag Information Recognition Approaches and Algorithms for Cross–Border Products Checking Dunsheng Chen, Yinsheng Li, Xu Liang, ICCSE'19: Proceedings of the 4th International Conference on Crowd Science and EngineeringPages 58–62 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3371238.3371248

8) Deep Learning–based End-to-End Address Recognition Solution on Chinese Courier Order Forms Jiayi Zhang, Yue Liu, AI2A '23: Proceedings of the 2023 3rd International Conference on Artificial Intelligence, Automation and Algorithms Pages 158 – 163 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3611450.3611473

9) Image Recognition Tools for Blind and Visually Impaired Users: An Emphasis on the Design Considerations Sandra Fernando, Chiemela Ndukwe, Bal Virdee, Ramzi Djemai ACM Transactions on Accessible Computing, Volume 18, Issue 1 Article No.: 1, Pages 1 – 21 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/370220

10) Scalable and Cost–effective Serverless Architecture for Information Extraction Workflows Dheeraj Chahal, Surya Chaitanya Palepu, Rekha Singhal HiPS '22: Proceedings of the 2nd Workshop on High Performance Serverless Computing Pages 15–23 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3526060.3535458

11) A Case Study on Handwritten *Indic* Script Classification: Benchmarking of the Results at Page, Block, Text–line, and Word Levels Pawan Kumar Singh, Ram Sarkar, Ajith Abraham, Mita Nasipuri ACM Transactions on Asian and Low–Resource Language Information Processing (TALLIP), Volume 21, Issue 2 Article No.: 32, Pages 1–36 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3476102

12) A Proposal of OCR–based User Positioning Method in Indoor Navigation System Using Unity and Smartphone (INSUS) Evianita Dewi Fajrianti, Nobuo Funabiki, Amma Liesvarastranta Haz ICNCC '23: Proceedings of the 2023 12th International Conference on Networks, Communication and Computing Pages 99–105 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3638837.3638852

13) Using YOLO Network for Automatic Processing of Finite Automata Images with Application to Bit–Strings Recognition Daniela S. Costa, Carlos A.B. Mello DocEng '23: Proceedings of the ACM Symposium on Document Engineering 2023 Article No.: 15, Pages 1–9 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3573128.3604898

14) Deep learning Arabic printed document knowledge extraction Taghreed Alghamdi, Samia Snoussi, Lobna Hsairi ICFNDS '21: Proceedings of the 5th International Conference on Future Networks and Distributed Systems Pages 201–207 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3508072.3508103

15) Text Localization in Scientific Figures using Fully Convolutional Neural Networks on Limited Training Data Morten Jessen, Falk Böschen, Ansgar Scherp DocEng '19: Proceedings of the ACM Symposium on Document Engineering 2019 Article No.: 13, Pages 1–10 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3342558.3345396

16) An Automatic Location and Recognition Method for Bank Card Number Yuanxue Xin, Pengfei Shi, Song Han ICAI '19: Proceedings of the 2019 International Conference on Robotics, Intelligent Control and Artificial Intelligence Pages 728–732 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3366194.3366325

17) Investigation of Faster–RCNN Inception Resnet V2 on Offline Kanji Handwriting Characters Anthony Adole, Eran Edirisinghe, Baihua Li, Chris Bearchell PRIS '20: Proceedings of the 2020 International Conference on Pattern Recognition and

Intelligent Systems Article No.: 18, Pages 1–5 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3415048.3416104

18) What Is the Intended Usage Context of This Model? An Exploratory Study of Pre–Trained Models on Various Model Repositories Lina Gong, Jingxuan Zhang, Mingqiang Wei, Haoxiang Zhang, Zhiqiu Huang ACM Transactions on Software Engineering and Methodology (TOSEM), Volume 32, Issue 3 Article No.: 69, Pages 1–57 [Електронний ресурс] // Режим доступу: https://doi.org/10.1145/3569934

19) Handwriting Text Recognition using CNN and RNN R. Sumathy; S. Narayana Swami;T. Pavan Kumar;V. Lakshmi Narasimha;B. Premalatha2023 2nd International Conference on Applied Artificial Intelligence and Computing (ICAAIC) [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org/

20) Review of Artificial Intelligence Methods in Handwriting Identification Using CNN–RNN for Textural Features Chandan Kumar Sonkar;Vinod Kumar 2025 International Conference on Cognitive Computing in Engineering, Communications, Sciences and Biomedical Health Informatics (IC3ECSBHI) Year: 2025, Conference Paper, Publisher: IEEE [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org/

21) An English Handwriting Evaluation Algorithm Based on CNNs Yingguo Gao;Runze Yu;Xiaohui Duan 2019 International Conference on Artificial Intelligence and Advanced Manufacturing (AIAM) [Електронний ресурс] // Режим доступу:

22) Handwritten Amharic Word Recognition With Additive Attention Mechanism Ruchika Malhotra;Maru Tesfaye Addis IEEE Access 2024 [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org/

23) Classification of Text regions in a Document Image by Analyzing the properties of Connected Components Showmik Bhowmik;Ram Sarkar 2020 IEEE Applied Signal Processing Conference (ASPCON) [Електронний ресурс] // Режим доступу:

24) Comparative Analysis of Text Extraction from Color Images using Tesseract and OpenCV AS Revathi;Nishi A Modi 2021 8th International Conference on Computing for Sustainable Global Development (INDIACom) [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org/

25) A Novel Model for Recognising Handwritten Devanagari Numerals using Machine Learning Ch. Prathima;Ramprakash Reddy Arava;K Sevitha;G Manikanth;D Vinay;C Surya 2024 4th International Conference on Pervasive Computing and Social Networking (ICPCSN) [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org/

26) A Tool for Extracting Text from Scanned Documents and Convert it into Editable Format S. Sukanya;S. Joseph Gladwin;C. Vinoth Kumar 2019 International Conference on Vision Towards Emerging Trends in Communication and Networking (ViTECoN) [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org/

27) Read Textual features in Images and convert to Editable form by extended use of Artificial Neural Networks, Deep learning and Maximally Stable Extremal Region … SJ Gladwin, CV Kumar Journal of Physics: Conference Series, 2021 [Електронний ресурс] // Режим доступу: https://iopscience.iop.org

28) Which OCR toolset is good and why: A comparative study P Jain, K Taneja, H Taneja – Kuwait Journal of Science, 2021 — [Електронний ресурс] // Режим доступу: https://journalskuwait.org

29) Text Extraction from Document Images using CNN and LSTM S Shinde, S Bhosle, G Bomble — 2023 International, 2023 [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org

30) A novel method for image to text extraction using tesseract–OCR S Kumar Garai, O Paul, U Dey — American Journal of, 2022 — [Електронний ресурс] // Режим доступу: https://ingentaconnect.com

31) Blind–Aid: Empowering the Visually Impaired using Artificial Intelligence and Image Processing TC Mahalingesh, A Karthik – on Smart Systems, 2023 — [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org

32) Zayed Encyclopedia as a Database for an AI–Driven Generative Program Serving Jurisprudential, Usul, and Maqasid Rules K Bioud, H Alshari — 2022 [Електронний ресурс] // Режим доступу: https://alwasl.ac.ae

33) PiExtract: An End-to-End Data Extraction Pipeline for Pie–Charts MS Kanroo, HS Kawoosa, J Dhar, P Goyal — International Conference on, 2025 — Springer [Електронний ресурс] // Режим доступу: https://link.springer.com/

34) A Review on Natural Scene Text Understanding for Computer Vision using Machine Learning MTG Prakash, B Tejaswini, C Varshini, C Harathi — 2022 — [Електронний ресурс] // Режим доступу: https://academia.edu

35) Deep learning approaches for information extraction from visually rich documents: datasets, challenges and methods H Gbada, K Kalti, MA Mahjoub — International Journal on Document , 2024 — Springer [Електронний ресурс] // Режим доступу: https://link.springer.com/

36) Text Removal for Trademark Images Based on Self–Prompting Mechanisms and Multi–Scale Texture Aggregation W Zhou, X Wang, B Zhou, L Li — Applied Sciences, 2025 — [Електронний ресурс] // Режим доступу: https://mdpi.com

37) Benchmarking NAS for article separation in historical newspapers N Girdhar, M Coustaty, A Doucet – International Conference on Asian , 2023 — Springer [Електронний ресурс] // Режим доступу: https://link.springer.com/

38) Natural scene text localization and detection using MSER and its variants: a comprehensive survey K Dutta, R Sarkhel, M Kundu, M Nasipuri… — Multimedia Tools and , 2024 — Springer [Електронний ресурс] // Режим доступу: https://link.springer.com/

39) Layout–aware information extraction from semi–structured medical images K Luo, J Lu, KQ Zhu, W Gao, J Wei, M Zhang — Computers in biology and …, 2019 — Elsevier [Електронний ресурс] // Режим доступу: https://www.sciencedirect.com/

40) Addressing the data gap: building a parallel corpus for Kashmiri language SMU Qumar, M Azim, SMK Quadri — International Journal of Information, 2024 — Springer [Електронний ресурс] // Режим доступу:https://link.springer.com/

41) Unknown–box Approximation to Improve Optical Character Recognition Performance A Randika, N Ray, X Xiao, A Latimer — Recognition—ICDAR 2021: 16th , 2021 — Springer [Електронний ресурс] // Режим доступу: https://ualberta.scholaris.ca/

42) Real–Time Industrial Text Detection with Boundary Awareness and Refined Differentiation Y Yang, M Hu, J Yu, B Jing — Available at SSRN 4959851 — [Електронний ресурс] // Режим доступу: https://papers.ssrn.com

43) Predicting Users' Latent Suicidal Risk in Social Media: An Ensemble Model Based on Social Network Relationships X Meng, C Wang, J Yang, M Li — Materials & Continua, 2024 — [Електронний ресурс] // Режим доступу: https://search.ebscohost.com

44) Content Extraction and Recognition in Scientific Publications Z Wang — 2020 — [Електронний ресурс] // Режим доступу: https://oaktrust.library.tamu.edu

45) Small end-to-end OCR model J Dun — [Електронний ресурс] // Режим доступу: https://repository.tudelft.nl

46) Automatically Interpreting Dutch Tombstone Inscriptions J Bos, C Marocico, AE Tatar — Linguistics in the , 2022 — [Електронний ресурс] // Режим доступу: https://research.rug.nl

47) Advancing ancient arabic manuscript restoration with optimized deep learning and image enhancement techniques of the requirements for the degree of Master of Applied Science K Miloud, ML Abdelmounaim, B Mohammed… — Traitement du , 2024 — [Електронний ресурс] // Режим доступу: https://researchgate.net

48) Avancées en Reconnaissance Optique des Caractères pour les Documents Arabes Historiques B Kiessling — 2021 — [Електронний ресурс] // Режим доступу: https://theses.hal.science

49) Data–Driven Document Unwarping K Ma — 2021 — [Електронний ресурс] // Режим доступу: https://search.proquest.com

50) Facebook Spam Detection Extension Tool for Chromium Browser Architecture LK Azman, NA Abdullah – Applied Information Technology, 2023 — [Електронний ресурс] // Режим доступу: https://penerbit.uthm.edu.my

51) Efficiency and accuracy improvement of document verification: automation and method analysis Proc. SPIE 13574, Fourth International Conference on Electronic Information Engineering and Data Processing (EIEDP 2025), 1357450 (9 May 2025); [Електронний ресурс] // Режим доступу: https://doi.org/10.1117/12.3067142

52) From Tradition to Technology: A Systematic Survey on Navigating Pashto in Modern NLP ZA Khan, Y Xia, F Khaliq, JA Khan — Available at SSRN — 2024 pages 44, [Електронний ресурс] // Режим доступу: https://papers.ssrn.com

53) Which OCR toolset is good and why: A comparative study P Jain, K Taneja, H Taneja – Kuwait Journal of Science, 2021 — [Електронний ресурс] // Режим доступу: https://journalskuwait.org

54) Text Extraction from Document Images using CNN and LSTM Sandip Shinde;Sanket Bhosle;Gaurav Bomble;Shourya Bhosale;Siddhant Bokil 2023 International Conference on Sustainable Communication Networks and Application (ICSCNA) [Електронний ресурс] // Режим доступу: https://ieeexplore.ieee.org/

55) Clinical Natural Language Processing Systems for Information Retrieval from Unstructured Medical Narratives SL Sophie, SS Sathya – Medical Data Analysis and Processing ,2023 — [Електронний ресурс] // Режим доступу: https://taylorfrancis.com

56) This is to certify that I am responsible for the work submitted in this Project, that the original work is mine, except as specified in acknowledgment and references A Musa — 2022 — [Електронний ресурс] // Режим доступу: https://academia.edu

57) PDF Software for Windows | FineReader PDF [Електронний ресурс] // Режим доступу: https://pdf.abbyy.com/finereader-pdf/ Software for Windows | FineReader PDF