

- ACM Conf. Learn. Scale, L S 2018, 2018, doi: 10.1145/3231644.3231668.
- [6] D. Aggarwal and D. Sharma, "Application of clustering for student result analysis," *Int. J. Recent Technol. Eng.*, vol. 7, no. 6, pp. 50–53, 2019.
- [7] A. Almasri, R. S. Alkhaldeh, and E. Çelebi, "Clustering-Based EMT Model for Predicting Student Performance," *Arab. J. Sci. Eng.*, vol. 45, no. 12, pp. 10067–10078, 2020, doi: 10.1007/s13369-020-04578-4.
- [8] D. S. Lamb, J. Downs, and S. Reader, "Space-time hierarchical clustering for identifying clusters in spatiotemporal point data," *ISPRS Int. J. Geo-Information*, vol. 9, no. 2, 2020, doi: 10.3390/ijgi9020085.
- [9] L. Zappia and A. Oshlack, "Clustering trees: a visualization for evaluating clusterings at multiple resolutions," *Gigascience*, vol. 7, no. 7, pp. 1–9, 2018, doi: 10.1093/gigascience/giy083.
- [10] C. Yuan and H. Yang, "Research on K-Value Selection Method of K-Means Clustering Algorithm," *J*, vol. 2, no. 2, pp. 226–235, 2019, doi: 10.3390/j2020016.
- [11] Mardonov, "Structure and Mechanisms of Action of The Educational Cluster," *Int. J. Psychol. Rehabil.*, vol. 24, no. 07, pp. 1475–7192, 2020, [Online]. Available: https://hozir.org/pars_docs/refs/541/540182/540182.pdf.
- [12] L. Zahrotun, N. hutami Putri, and A. N. Khusna, "The Implementation of K-Means Clustering Method in Classifying Undergraduate Thesis Titles," in *12th International Conference on Telecommunication Systems, Services, and Applications (TSSA)*, 2018.
- [13] A. Hadifar, L. Sterckx, T. Demeester, and C. Develder, "A self-training approach for short text clustering," *ACL 2019 - 4th Work. Represent. Learn. NLP, Repl4NLP 2019 - Proc. Work.*, no. 2017, pp. 194–199, 2019, doi: 10.18653/v1/w19-4322.
- [14] E. A. Anaam, S.-C. Haw, and P. Naveen, "Applied Fuzzy and Analytic Hierarchy Process Techniques in Hybrid Recommendation Approaches For E-CRM," *Int. J. Informatics Vis.*, vol. 6, no. 2, p. 2, 2022.
- [15] H.-S. Park and C.-H. Jun, "Expert Systems with Applications An International Journal," *Expert Syst. Appl.*, vol. 145, no. 2, p. 3341, 2020.
- [16] D. Sun, H. Fei, and Q. Li, "A Bisecting K-Medoids clustering Algorithm Based on Cloud Model," vol. 51, no. 11, pp. 308–315, 2018, doi: 10.1016/j.ifacol.2018.08.301.
- [17] Martanto, S. Anwar, C. L. Rohmat, F. M. Basysyar, and Y. A. Wijaya, "Clustering of internet network usage using the K-Medoid method," *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 1088, no. 1, p. 012036, 2021, doi: 10.1088/1757-899x/1088/1/012036.
- [18] A. Moubayed, M. Injadat, A. Shami, and H. Lutfiyya, "Student Engagement Level in an e-Learning Environment: Clustering Using K-means," *Am. J. Distance Educ.*, vol. 34, no. 2, pp. 137–156, 2020, doi: 10.1080/08923647.2020.1696140.
- [19] S. Sinche *et al.*, "Analysis of Student Academic Performance Using Human-in-the-Loop Cyber-Physical Systems," *Telecom*, vol. 1, no. 1, pp. 18–31, 2020, doi: 10.3390/telecom1010003.
- [20] O. Tinuke Omolewa, A. Taye Oladele, A. Adekanmi Adeyinka, and O. Roseline Oluwaseun, "Prediction of Student's Academic Performance using k-Means Clustering and Multiple Linear Regressions," *J. Eng. Appl. Sci.*, vol. 14, no. 22, pp. 8254–8260, 2019, doi: 10.36478/jeasci.2019.8254.8260.
- [21] J. Oyelade *et al.*, "Data Clustering: Algorithms and Its Applications," *Proc. - 2019 19th Int. Conf. Comput. Sci. Its Appl. ICCSA 2019*, no. July, pp. 71–81, 2019, doi: 10.1109/ICCSA.2019.000-1.
- [22] A. Naeem, M. Rehman, M. Anjum, and M. Asif, "Development of an efficient hierarchical clustering analysis using an agglomerative clustering algorithm," *Curr. Sci.*, vol. 117, no. 6, pp. 1045–1053, 2019, doi: 10.18520/cs/v117/i6/1045-1053.
- [23] S. Bipasha Biswas and M. Tariq Iqbal, "Solar Water Pumping System Control Using a Low Cost ESP32 Microcontroller," *Can. Conf. Electr. Comput. Eng.*, vol. 2018-May, pp. 1–5, 2018, doi: 10.1109/CCECE.2018.8447749.
- [24] M. T. Lwin and M. M. Aye, "A Modified Hierarchical Agglomerative Approach for Efficient Document Clustering System," *Am. Sci. Res. J. Eng.*, vol. 29, no. 1, pp. 228–238, 2017, [Online]. Available: <http://asrjetsjournal.org/>.
- [25] W. Xiaochun and W. Xia Li, "A Fast K-medoids Clustering Algorithm for Image Segmentation based Object Recognition," *J. Robot. Autom.*, vol. 4, no. 1, pp. 202–211, 2020, doi: 10.36959/673/371.
- [26] F. Gullo, G. Ponti, A. Tagarelli, and S. Greco, "An information-theoretic approach to hierarchical clustering of uncertain data," *Inf. Sci. (Njy)*, vol. 402, pp. 199–215, 2017, doi: 10.1016/j.ins.2017.03.030.
- [27] A. Triayudi and I. Fitri, "Comparison of parameter-free agglomerative hierarchical clustering methods," *ICIC Express Lett.*, vol. 12, no. 10, pp. 973–980, 2018, doi: 10.24507/icicel.12.10.973.
- [28] A. R. Mamat, F. S. Mohamed, M. A. Mohamed, N. M. Rawi, and M. I. Awang, "Silhouette index for determining optimal k-means clustering on images in different color models," *Int. J. Eng. Technol.*, vol. 7, no. April, pp. 105–109, 2018, doi: 10.14419/ijet.v7i2.14.11464.
- [29] M. Shutaywi and N. N. Kachouie, "Silhouette analysis for performance evaluation in machine learning with applications to clustering," *Entropy*, vol. 23, no. 6, pp. 1–17, 2021, doi: 10.3390/e23060759.
- [30] R. J. Roiger, *Data Mining A Tutorial-Based Primer*. Boca Raton, London, New York, 2017.
- [31] N. Nidheesh, K. A. A. Nazeer, and P. M. Ameer, "A Hierarchical Clustering algorithm based on Silhouette Index for cancer subtype discovery from genomic data," *Neural Comput. Appl.*, vol. 32, no. 15, pp. 11459–11476, 2020, doi: 10.1007/s00521-019-04636-5.
- [32] X. Wang and Y. Xu, "An improved index for clustering validation based on Silhouette index and Calinski-Harabasz index," *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 569, no. 5, 2019, doi: 10.1088/1757-899X/569/5/052024.
- [33] J. Han, J. Pei, and H. Tong, *Data Mining Concepts and Techniques*. Cambridge, MA 02139, United States: Elsevier Inc., 2023.