

DAFTAR PUSTAKA

- [1] A. Noertjahyana and R. Adipranata, "Implementasi Sistem Pengenalan Suara Menggunakan SAPI 5.1 dan DELPHI 5," *Jur. Tek. Inform. Fak. Teknol. Ind. Univ. Kristen Petra*, vol. 4, pp. 107–114, 2003.
- [2] A. Maier *et al.*, "Automatic detection of articulation disorders in children with cleft lip and palate," *J. Acoust. Soc. Am.*, vol. 126, no. 5, pp. 2589–2602, 2009, doi: 10.1121/1.3216913.
- [3] H. A. DARWITO, "Identifikasi Level Keparahan Cleft Lip and Palate," p. 82, 2012.
- [4] L. He, J. Zhang, Q. Liu, H. Yin, M. Lech, and Y. Huang, "Automatic Evaluation of Hypernasality Based on a Cleft Palate Speech Database," *J. Med. Syst.*, vol. 39, no. 5, pp. 1–7, 2015, doi: 10.1007/s10916-015-0242-2.
- [5] L. He, J. Zhang, Q. Liu, J. Zhang, H. Yin, and M. Lech, "Automatic detection of glottal stop in cleft palate speech," *Biomed. Signal Process. Control*, vol. 39, pp. 230–236, 2018, doi: 10.1016/j.bspc.2017.07.027.
- [6] C. M. Vikram, N. Adiga, and S. R. M. Prasanna, "Detection of Nasalized Voiced Stops in Cleft Palate Speech Using Epoch-Synchronous Features," *IEEE/ACM Trans. Audio Speech Lang. Process.*, vol. 27, no. 7, pp. 1189–1200, 2019, doi: 10.1109/TASLP.2019.2913089.
- [7] C. M. Vikram, S. K. Macha, S. Kalita, and S. R. Mahadeva Prasanna, "Acoustic analysis of misarticulated trills in cleft lip and palate children," *J. Acoust. Soc. Am.*, vol. 143, no. 6, pp. EL474–EL480, 2018, doi: 10.1121/1.5042339.
- [8] M. Vucovich, R. R. Hallac, A. A. Kane, J. Cook, C. Van`T Slot, and J. R. Seaward, "Automated cleft speech evaluation using speech recognition," *J. Cranio-Maxillofacial Surg.*, vol. 45, no. 8, pp. 1268–1271, 2017, doi: 10.1016/j.jcms.2017.05.002.
- [9] R. Villafuerte-Gonzalez, V. M. Valadez-Jimenez, X. Hernandez-Lopez, and P. A. Ysunza, "Acoustic analysis of voice in children with cleft palate and velopharyngeal insufficiency," *Int. J. Pediatr. Otorhinolaryngol.*, vol. 79, no.

- 7, pp. 1073–1076, 2015, doi: 10.1016/j.ijporl.2015.04.030.
- [10] R. Rullo, D. Di Maggio, V. M. Festa, and N. Mazzarella, “Speech assessment in cleft palate patients: A descriptive study,” *Int. J. Pediatr. Otorhinolaryngol.*, vol. 73, no. 5, pp. 641–644, 2009, doi: 10.1016/j.ijporl.2008.12.011.
 - [11] S. Paal, U. Reulbach, K. Strobel-Schwarthoff, E. Nkenke, and M. Schuster, “Evaluation of Speech Disorders in Children with Cleft Lip and Palate Bewertung von Sprechauffälligkeiten bei Kindern mit Lippen-Kiefer-Gaumen-Spaltfehlbildungen,” *J. Orofac. Orthop. / Fortschritte der Kieferorthopädie*, vol. 66, no. 4, pp. 270–278, 2005, doi: 10.1007/s00056-005-0427-2.
 - [12] P. Vijayalakshmi, M. R. Reddy, and D. O’Shaughnessy, “Acoustic analysis and detection of hypernasality using a group delay function,” *IEEE Trans. Biomed. Eng.*, vol. 54, no. 4, pp. 621–629, 2007, doi: 10.1109/TBME.2006.889191.
 - [13] F. R. Larangeira *et al.*, “Speech nasality and nasometry in cleft lip and palate,” *Braz. J. Otorhinolaryngol.*, vol. 82, no. 3, pp. 326–333, 2016, doi: 10.1016/j.bjorl.2015.05.017.
 - [14] F. Yeni, I. Lafal, F. Penderita, B. Sumbing, and U. S. U. Repository, “Interpretasi lafal fonem penderita bibir sumbing skripsi,” 2008.
 - [15] Sardjono, *Terapi Wicara*. Jakarta: Departemen Pendidikan Nasional, 2005.
 - [16] D. A. Supendi and D. Setiadi, “Analisis Kasus Dan Penyebab Gangguan Berbahasa (Language Disorders),” pp. 101–112, 2010.
 - [17] H. A. Carvajal-Castaño and J. R. Orozco-Aroyave, “Articulation Analysis in the Speech of Children with Cleft Lip and Palate,” *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 11896 LNCS, no. 1, pp. 575–585, 2019, doi: 10.1007/978-3-030-33904-3_54.
 - [18] C. Gugsch, K.-H. Dannhauer, and M. Fuchs, “Evaluation of the Progress of Therapy in Patients with Cleft Lip, Jaw and Palate, Using Voice Analysis – a Pilot Study Stimmanalytische Beurteilung des Therapieverlaufs bei

- Patienten mit Lippen-Kiefer-Gaumen-Spalten – eine Pilotstudie,” *J. Orofac. Orthop. / Fortschritte der Kieferorthopädie*, vol. 69, no. 4, pp. 257–267, 2008, doi: 10.1007/s00056-008-0702-0.
- [19] L. He, J. Tan, H. Hao, M. Tang, H. Yin, and M. Lech, “Automatic evaluation of resonance and articulation disorders in cleft palate speech,” in *2015 IEEE China Summit and International Conference on Signal and Information Processing, ChinaSIP 2015 - Proceedings*, 2015, pp. 358–362, doi: 10.1109/ChinaSIP.2015.7230424.
- [20] L. He, J. Zhang, Q. Liu, H. Yin, and M. Lech, “Automatic evaluation of hypernasality and speech intelligibility for children with cleft palate,” *Proc. 2013 IEEE 8th Conf. Ind. Electron. Appl. ICIEA 2013*, vol. 21, no. 10, pp. 220–223, 2013, doi: 10.1109/ICIEA.2013.6566369.
- [21] Abriyono. and A. Harjoko, “Pengenaln Ucapan Suku Kata Bahasa Lisan Menggunakan Ciri LPC, MFCC, dan JST,” *Indones. J. Comput. Cybern. Syst.*, vol. 6, no. 2, pp. 23–34, 2013, doi: 10.22146/ijccs.2149.
- [22] S. Hidayat, R. Hidayat, and T. B. Adji, “Sistem Pengenal Tutur Bahasa Indonesia Berbasis Suku Kata,” no. September, pp. 246–251, 2015.
- [23] W. Yuwono, “Klasifikasi Tingkat Keparahen Bibir Sumbing pada Citra 2D,” pp. 1–3, 2012.
- [24] V. Ferdiansyah and A. Purwarianti, “Indonesian automatic speech recognition system using English-based acoustic model,” *Proc. 2011 Int. Conf. Electr. Eng. Informatics, ICEEI 2011*, no. July, 2011, doi: 10.1109/ICEEI.2011.6021583.
- [25] Suyanto and S. Hartati, “Automatic Speech Recognition-Based Information Center for Indonesian Language,” *Icts*, pp. 65–70, 2013.
- [26] M. A. Imtiaz and R. Gulistian, “Isolated Word Automatic Speech Recognition (ASR) System using MFCC , DTW & KNN,” *2016 Asia Pacific Conf. Multimed. Broadcast.*, pp. 106–110, 2016, doi: 10.1109/APMediaCast.2016.7878163.
- [27] A. Charisma, “Sistem Verifikasi Penutur Menggunakan Metode Mel Frequency Cepstral Coefficient-Vector Quantisation (MFCC-QV) Serta Sum

- Square Error (SSE) dan Pengenalan Kata Menggunakan Metode Logika Fuzzy,” *J. Tek. Elektro*, vol. 2, no. 2, 2013.
- [28] B. T. Tan, M. Fu, A. Spray, and P. Dermody, “The Use of Wavelet Transforms in Phoneme Recognition,” vol. 4, no. Process. ICSLP ’96, pp. 116–122, 1996.
- [29] R. G. Nieto, J. I. Marin-Hurtado, L. M. Capacho-Valbuena, A. A. Suarez, and E. A. B. Bolanos, “Pattern recognition of hypernasality in voice of patients with Cleft and Lip Palate,” *2014 19th Symp. Image, Signal Process. Artif. Vision, STSIVA 2014*, pp. 1–5, 2015, doi: 10.1109/STSIVA.2014.7010187.
- [30] J. R. Orozco-Arroyave, J. F. Vargas-Bonilla, J. C. Vásquez-Correa, C. G. Castellanos-Domínguez, and E. Nöth, “Automatic detection of hypernasal speech of children with cleft lip and palate from spanish vowels and words using classical measures and nonlinear analysis,” *Rev. Fac. Ing.*, vol. 2016, no. 80, pp. 109–123, 2016, doi: 10.17533/udea.redin.n80a12.
- [31] D. Putra, “Verifikasi Biometrika Suara Menggunakan,” *Biometrika*, vol. 2, no. 1, pp. 8–21, 2011.
- [32] X. Zhang and J. H. L. Hansen, “CFA-BF : A Novel Combined Fixed / Adaptive Beamforming for Robust Speech Recognition In Real Car Environments,” *Perform. Eval.*, vol. 594, pp. 1289–1292, 2003.
- [33] P. A. Mossey, J. Little, R. G. Munger, Mi. J. Dixon, and W. C. Shaw, “Cleft lip and palate - ProQuest,” *Lancet*, vol. 374, no. 9703, pp. 1773–1785, 2009, doi: 10.1016/S0140-6736(09)60695-4.
- [34] H. S. Manunggal, “Perancangan dan Pembuatan Perangkat Lunak Pengenalan Suara Pembicara Dengan Menggunakan Analisa MFCC Feature Extraction.,” *Tugas Akhir Sarj. pada Jur. Tek. Inform. Fak. Teknol. Ind. Univ. Kristen Petra Surabaya*, 2005.
- [35] S. A. A. Yusuf and R. Hidayat, “MFCC feature extraction and KNN classification in ECG signals,” *2019 6th Int. Conf. Inf. Technol. Comput. Electr. Eng. ICITACEE 2019*, pp. 1–5, 2019, doi: 10.1109/ICITACEE.2019.8904285.
- [36] A. Setiawan, A. Hidayatno, R. R. Isnanto, J. T. Elektro, F. Teknik, and U.

- Diponegoro, “Aplikasi Pengenalan Ucapan dengan Ekstraksi Mel-Frequency Cepstrum Coefficients (MFCC) Melalui Jaringan Syaraf Tiruan (JST) Learning Vector Quantization (LVQ) untuk Mengoperasikan Kursor Komputer,” vol. 13, no. 3, pp. 82–86, 2011, doi: 10.12777/transmisi.13.3.82-86.
- [37] X. Huang, A. Acero, H.-W. Hon, and R. Reddy, *Spoken Language Processing: A Guide to Theory, Algorithm, and System Development*, 1st ed. USA: Prentice Hall PTR, 2001.
- [38] C. H. Chen, W. T. Huang, T. H. Tan, C. C. Chang, and Y. J. Chang, “Using K-nearest neighbor classification to diagnose abnormal lung sounds,” *Sensors (Switzerland)*, vol. 15, no. 6, pp. 13132–13158, 2015, doi: 10.3390/s150613132.
- [39] P. Eko, *Data Mining Mengelola Data Menjadi Informasi Menggunakan Matlab*. Yogyakarta: Penerbit Andi, 2010.
- [40] F. Liantoni, “Klasifikasi Daun Dengan Perbaikan Fitur Citra Menggunakan Metode K-Nearest Neighbor,” *J. Ultim.*, vol. 7, no. 2, pp. 98–104, 2016, doi: 10.31937/ti.v7i2.356.
- [41] R. Yessivirna, Marjib, and D. Eka Ratnawati, “Klasifikasi Suara Berdasarkan Gender (Jenis Kelamin) Dengan Metode K-Nearest Neighbor (Knn),” *J. Doro*, vol. 214, no. 2013, pp. 1–9, 2013.
- [42] Sri Kusumadewi, *Membangun Jaringan Syaraf Tiruan Menggunakan MATLAB dan EXCELLINK*. Yogyakarta: graha ilmu, 2004.
- [43] I. Saini, D. Singh, and A. Khosla, “QRS detection using K-Nearest Neighbor algorithm (KNN) and evaluation on standard ECG databases,” *J. Adv. Res.*, vol. 4, no. 4, pp. 331–344, 2013, doi: 10.1016/j.jare.2012.05.007.
- [44] R. Aditya, “Prototipe Pengenalan Suara Sebagai Penggerak Dinamo Starter Pada Mobil,” no. 100, pp. 1–25.
- [45] A. Winursito, R. Hidayat, and A. Bejo, “Improvement of MFCC feature extraction accuracy using PCA in Indonesian speech recognition,” *2018 Int. Conf. Inf. Commun. Technol. ICOIACT 2018*, vol. 2018-Janua, pp. 379–383, 2018, doi: 10.1109/ICOIACT.2018.8350748.

- [46] I. A. A. Angreni, S. A. Adisasmita, and M. I. Ramli, “PENGARUH NILAI K PADA METODE K-NEAREST NEIGHBOR (KNN) TERHADAP TINGKAT AKURASI IDENTIFIKASI KERUSAKAN JALAN,” vol. 7, no. 2, pp. 63–70, 2018.
- [47] T. Bocklet, K. Riedhammer, U. Eysholdt, and E. Noth, “Automatic phoneme analysis in children with Cleft Lip and Palate,” *ICASSP, IEEE Int. Conf. Acoust. Speech Signal Process. - Proc.*, pp. 7572–7576, 2013, doi: 10.1109/ICASSP.2013.6639135.
- [48] A. Maier *et al.*, “PEAKS - A system for the automatic evaluation of voice and speech disorders,” *Speech Commun.*, vol. 51, no. 5, pp. 425–437, 2009, doi: 10.1016/j.specom.2009.01.004.
- [49] L. He, X. Wang, J. Zhang, Q. Liu, H. Yin, and M. Lech, “Automatic detection of consonant omission in cleft palate speech,” *Int. J. Speech Technol.*, vol. 22, no. 1, pp. 59–65, 2019, doi: 10.1007/s10772-018-09570-w.