DAFTAR PUSTAKA

[1] W. Ye, H. Kuang, K. Deng, D. Zhang, and J. Li, "LGTCN: A Spatial–Temporal Traffic Flow Prediction Model Based on Local–Global Feature Fusion Temporal Convolutional Network," *Applied Sciences*, vol. 14, no. 19, p. 8847, Oct. 2024, doi: 10.3390/app14198847.

[2] P. Chawla *et al.*, "Real-time traffic congestion prediction using big data and machine learning techniques," *World Journal of Engineering*, vol. 21, no. 1, pp. 140–155, Jan. 2024, doi: 10.1108/WJE-07-2021-0428.

[3] F. Storani, R. Di Pace, F. Bruno, and C. Fiori, "Analysis and comparison of traffic flow models: a new hybrid traffic flow model vs benchmark models," *European Transport Research Review*, vol. 13, no. 1, p. 58, Dec. 2021, doi: 10.1186/s12544-021-00515-0.

[4] A. Radford *et al.*, "Learning Transferable Visual Models From Natural Language Supervision," Feb. 2021, [Online]. Available: http://arxiv.org/abs/2103.00020

[5] A. Ramezani, B. Moshiri, B. Abdulhai, and A. R. Kian, "Estimation of free flow speed and critical density in a segmented freeway using missing data and Monte Carlo-based expectation maximisation algorithm," *IET Control Theory & Applications*, vol. 5, no. 1, pp. 123–130, Jan. 2011, doi: 10.1049/iet-cta.2010.0016.

[6] G. B. Lighthill, M. J., & Whitham, "On kinematic waves II. A theory of traffic flow on long crowded roads," *Proc R Soc Lond A Math Phys Sci*, vol. 229, no. 1178, pp. 317–345, May 1955, doi: 10.1098/rspa.1955.0089.

[7] B. L. Smith and M. J. Demetsky, "Short-term traffic flow prediction models: A comparison of neural network and nonparametric regression approaches," *In Proceedings of the IEEE International Conference on Systems, Man, and Cybernetics*, vol. 2, pp. 1706–1709, 1994.

[8] D. Tiesyte and C. S. Jensen, "Similarity-based prediction of travel times for vehicles traveling on known routes," in *Proceedings of the 16th ACM SIGSPATIAL international conference on Advances in geographic information systems*, New York, NY, USA: ACM, Nov. 2008, pp. 1–10. doi: 10.1145/1463434.1463452.

[9] B. Hardjono, H. Tjahyadi, A. E. Widjaja, and M. G. A. Rhizma, "Vehicle travel distance and time prediction using virtual detection zone and CCTV data," in *2017 IEEE 17th International Conference on Communication Technology (ICCT)*, IEEE, Oct. 2017, pp. 1832–1837. doi: 10.1109/ICCT.2017.8359947.

[10] R. F. Navea, J. C. Bautista, A. G. F. Fernan, Z. Gacuya, and A. Saidatul, “Traffic density estimation and mapping using IP-CCTV networks: A campus-based approach,” 2023, p. 060006. doi: 10.1063/5.0111785.

[11] Z. Hu, W. H. K. Lam, S. C. Wong, A. H. F. Chow, and W. Ma, “Turning traffic surveillance cameras into intelligent sensors for traffic density estimation,” *Complex & Intelligent Systems*, vol. 9, no. 6, pp. 7171–7195, Dec. 2023, doi: 10.1007/s40747-023-01117-0.

[12] B. D. Greenshields, “A study of traffic capacity,” *Proceedings of the highway research board*, vol. 14, pp. 448–477, 1935, [Online]. Available: https://onlinepubs.trb.org/Onlinepubs/hrbproceedings/14/14P1-023.pdf

[13] J. C. Herrera, D. B. Work, R. Herring, X. (Jeff) Ban, Q. Jacobson, and A. M. Bayen, “Evaluation of traffic data obtained via GPS-enabled mobile phones: The Mobile Century field experiment,” *Transp Res Part C Emerg Technol*, vol. 18, no. 4, pp. 568–583, Aug. 2010, doi: 10.1016/j.trc.2009.10.006.

[14] M. Rezaei, M. Azarmi, and F. M. P. Mir, “Traffic-Net: 3D Traffic Monitoring Using a Single Camera,” Sep. 2021, [Online]. Available: http://arxiv.org/abs/2109.09165

[15] L. Zhang, X. Yu, A. Daud, A. R. Mussah, and Y. Adu-Gyamfi, “Application of 2D Homography for High Resolution Traffic Data Collection using CCTV Cameras,” Jan. 2024, [Online]. Available: http://arxiv.org/abs/2401.07220

[16] T. F. E. In Wikipedia, “Closed-circuit television.” [Online]. Available: https://en.wikipedia.org/wiki/Closed-circuit_television.

[17] S. Reza, H. S. Oliveira, J. J. M. Machado, and J. M. R. S. Tavares, “Urban Safety: An Image-Processing and Deep-Learning-Based Intelligent Traffic Management and Control System,” *Sensors*, vol. 21, no. 22, p. 7705, Nov. 2021, doi: 10.3390/s21227705.

[18] Z. Aini, F. Hutapea, and N. Ramadhanie, “IMPLEMENTASI SISTEM PENGAWASAN CCTV LALU LINTAS DI KOTA TANJUNGPINANG,” *Jurnal EL-RIYASAH*, vol. 11, no. 1, p. 1, Jun. 2020, doi: 10.24014/jel.v11i1.8607.

[19] J. Pang, “Enhancing Urban Traffic Management: Advanced Strategies in Image Recognition-Based Intelligent Traffic Monitoring,” *Traitement du Signal*, vol. 40, no. 6, pp. 2587–2597, Dec. 2023, doi: 10.18280/ts.400621.

[20] A. Fedorov, K. Nikolskaia, S. Ivanov, V. Shepelev, and A. Minbaleev, “Traffic flow estimation with data from a video surveillance camera,” *J Big Data*, vol. 6, no. 1, p. 73, Dec. 2019, doi: 10.1186/s40537-019-0234-z.

[21] K.-H. N. Bui, H. Yi, and J. Cho, “A Multi-Class Multi-Movement Vehicle Counting Framework for Traffic Analysis in Complex Areas Using CCTV

Systems," *Energies (Basel)*, vol. 13, no. 8, p. 2036, Apr. 2020, doi: 10.3390/en13082036.

[22] B. W. Parkinson and J. J. (Eds.). Spilker, *Global Positioning System: Theory and Applications, Volume I*. Washington DC: American Institute of Aeronautics and Astronautics, 1996. doi: 10.2514/4.866388.

[23] P. E. Ceruzzi, "Satellite Navigation and the Military-Civilian Dilemma: The Geopolitics of GPS and Its Rivals," 2021, pp. 343–367. doi: 10.1057/978-1-349-95851-1_13.

[24] K.-M. Cheung, G. Lightsey, and C. Lee, "Accuracy/computation performance of a new trilateration scheme for GPS-style localization," in *2018 IEEE Aerospace Conference*, IEEE, Mar. 2018, pp. 1–10. doi: 10.1109/AERO.2018.8396377.

[25] GIS Geography, "GPS Trilateration Diagram: How GPS Receivers Work – Trilateration vs Triangulation," https://gisgeography.com/trilateration-triangulation-gps/.

[26] N. Asih, D. Djamaludin, and V. S. Windyasari, "Perancangan Sistem Monitoring Keberadaan Objek Menggunakan GPS Tracker Dengan Interface Berbasis Aplikasi Telepon Pintar," *JUTIS*, vol. 10, no. 1, pp. 1–15, Apr. 2022.

[27] A. Nurminen, "A platform for mobile 3D map navigation development," in *Proceedings of the 8th conference on Human-computer interaction with mobile devices and services*, New York, NY, USA: ACM, Sep. 2006, pp. 101–104. doi: 10.1145/1152215.1152236.

[28] S. Zheng, M. Li, Z. Ke, and Z. Li, "Coordinated Variable Speed Limit Control for Consecutive Bottlenecks on Freeways Using Multiagent Reinforcement Learning," *J Adv Transp*, vol. 2023, pp. 1–19, Jun. 2023, doi: 10.1155/2023/4419907.

[29] M. Keyvan-Ekbatani, A. Kouvelas, I. Papamichail, and M. Papageorgiou, "Exploiting the fundamental diagram of urban networks for feedback-based gating," *Transportation Research Part B: Methodological*, vol. 46, no. 10, pp. 1393–1403, Dec. 2012, doi: 10.1016/j.trb.2012.06.008.

[30] J. Li and H. M. Zhang, "Fundamental Diagram of Traffic Flow," *Transportation Research Record: Journal of the Transportation Research Board*, vol. 2260, no. 1, pp. 50–59, Jan. 2011, doi: 10.3141/2260-06.

[31] Anupriya, D. J. Graham, D. Hörcher, and P. Bansal, "Revisiting the empirical fundamental relationship of traffic flow for highways using a causal econometric approach," Apr. 2021.

[32] K. Kalair and C. Connaughton, “Anomaly detection and classification in traffic flow data from fluctuations in the flow-density relationship,” Dec. 2020.

[33] Z. Cheng, X. Wang, X. Chen, M. Trepanier, and L. Sun, “Bayesian calibration of traffic flow fundamental diagrams using Gaussian processes,” Aug. 2022, doi: 10.1109/OJITS.2022.3220926.

[34] Y. Kawasaki, T. Seo, T. Kusakabe, and Y. Asakura, “Fundamental diagram estimation using GPS trajectories of probe vehicles,” in *2017 IEEE 20th International Conference on Intelligent Transportation Systems (ITSC)*, IEEE, Oct. 2017, pp. 1–6. doi: 10.1109/ITSC.2017.8317661.

[35] A. A. Kurzhanskiy and P. P. Varaiya, “CTMSIM — An interactive macroscopic freeway traffic simulator,” 2008. [Online]. Available: https://api.semanticscholar.org/CorpusID:52826244

[36] B. Hardjono, “Modified macroscopic modelling for smart phone’s virtual detection zone,” Doctoral dissertation, Universitas Indonesia, Depok, 2015. Accessed: Jan. 01, 2025. [Online]. Available: https://lontar.cs.ui.ac.id/Lontar/opac/themes/newui/detail.jsp?id=43375&lokasi=lokal.

[37] C. F. Daganzo, “The cell transmission model: A dynamic representation of highway traffic consistent with the hydrodynamic theory,” *Transportation Research Part B: Methodological*, vol. 28, no. 4, pp. 269–287, Aug. 1994, doi: 10.1016/0191-2615(94)90002-7.

[38] H. Wang, Y. Yue, and Q. Li, “How many probe vehicles are enough for identifying traffic congestion?—a study from a streaming data perspective,” *Front Earth Sci*, vol. 7, no. 1, pp. 34–42, Mar. 2013, doi: 10.1007/s11707-012-0343-x.

[39] M. Kamargianni, W. Li, M. Matyas, and A. Schäfer, “A Critical Review of New Mobility Services for Urban Transport,” *Transportation Research Procedia*, vol. 14, pp. 3294–3303, 2016, doi: 10.1016/j.trpro.2016.05.277.

[40] X. Fan *et al.*, “Deep learning for intelligent traffic sensing and prediction: recent advances and future challenges,” *CCF Transactions on Pervasive Computing and Interaction*, vol. 2, no. 4, pp. 240–260, Dec. 2020, doi: 10.1007/s42486-020-00039-x.

[41] H. Chang and S. Cheon, “The potential use of big vehicle GPS data for estimations of annual average daily traffic for unmeasured road segments,” *Transportation (Amst)*, vol. 46, no. 3, pp. 1011–1032, Jun. 2019, doi: 10.1007/s11116-018-9903-6.

[42] M. V. Peppa *et al.*, “Towards an End-to-End Framework of CCTV-Based Urban Traffic Volume Detection and Prediction,” *Sensors*, vol. 21, no. 2, p. 629, Jan. 2021, doi: 10.3390/s21020629.

[43] B. Hardjono, A. Wibowo, M. F. Rachmadi, and W. Jatmiko, “Mobile phones as traffic sensors with map matching and privacy considerations,” in *2012 International Symposium on Micro-NanoMechatronics and Human Science (MHS)*, IEEE, Apr. 2012, pp. 450–455. doi: 10.1109/MHS.2012.6492490.

[44] R. Dervisoglu, G., Gomes, G., & Horowitz, “Automatic calibration of the fundamental diagram and empirical observations on capacity,” *Transportation Research Board*, 2009, [Online]. Available: https://horowitz.me.berkeley.edu/Publications_files/All_papers_numbered/174C_Dervisoglu_TRB09.pdf

[45] D. Helbing, “Derivation of a fundamental diagram for urban traffic flow,” *Eur Phys J B*, vol. 70, no. 2, pp. 229–241, Jul. 2009, doi: 10.1140/epjb/e2009-00093-7.

[46] B. Hardjono, R. Akbar, A. Wibisono, P. Mursanto, W. Jatmiko, and A. M. Arymurthy, “Fundamental diagram estimation using Virtual Detection Zone in smart phones’ application and CCTV data,” in *2014 IEEE 3rd Global Conference on Consumer Electronics (GCCE)*, IEEE, Oct. 2014, pp. 465–469. doi: 10.1109/GCCE.2014.7031123.

[47] D. Helbing and M. Treiber, “Numerical simulation of macroscopic traffic equations,” *Comput Sci Eng*, vol. 1, no. 5, pp. 89–98, 1999, doi: 10.1109/5992.790593.

[48] T. Chai and R. R. Draxler, “Root mean square error (RMSE) or mean absolute error (MAE)? – Arguments against avoiding RMSE in the literature,” *Geosci Model Dev*, vol. 7, no. 3, pp. 1247–1250, Jun. 2014, doi: 10.5194/gmd-7-1247-2014.

[49] M. C. Ikbal, B. D. Yuwono, and F. J. Amarrohman, “Analisis Strategi Pengolahan Baseline GPS Berdasarkan Jumlah Titik Ikat dan Variasi Waktu Pengamatan,” *Jurnal Geodesi Undip*, vol. 6, no. 1, pp. 228–237, Feb. 2017.

[50] D. Gunawan, B. D. Yuwono, and B. Sasmito, “ANALISIS PENGOLAHAN DATA GPS MENGGUNAKAN PERANGKAT LUNAK RTKLIB,” *Geodesi Undip*, vol. 5, no. 2, pp. 34–43, May 2016.

[51] D. M. Bramich, M. Menendez, and L. Ambuhl, “Fitting Empirical Fundamental Diagrams of Road Traffic: A Comprehensive Review and Comparison of Models Using an Extensive Data Set,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 23, no. 9, pp. 14104–14127, Sep. 2022, doi: 10.1109/TITS.2022.3142255.

[52] N. Maiti and B. R. Chilukuri, “Empirical Investigation of Fundamental Diagrams in Mixed Traffic,” *IEEE Access*, vol. 11, pp. 13293–13308, 2023, doi: 10.1109/ACCESS.2023.3242971.

[53] M. Treiber and A. Kesting, *Traffic Flow Dynamics*. Berlin, Heidelberg: Springer Berlin Heidelberg, 2013. doi: 10.1007/978-3-642-32460-4.