DAFTAR PUSTAKA

[1] S. Sengkey, F. Jansen, and S. Wallah, "TINGKAT PENCEMARAN UDARA CO AKIBAT LALU LINTAS DENGAN MODEL PREDIKSI POLUSI UDARA SKALA MIKRO," *J. Ilm. Media Eng.*, 2011.

[2] J. Prayudha, A. Pranata, and A. Al Hafiz, "Implementasi Metode Fuzzy Logic Untuk Sistem Pengukuran Kualitas Udara Di Kota Medan Berbasis Internet of Things (Iot)," *Jurteksi*, vol. 4, no. 2, pp. 141–148, 2018, doi: 10.33330/jurteksi.v4i2.57.

[3] C. Lee, Y. Han, S. Jeon, D. Seo, and I. Jung, "Smart Parking System Using Ultrasonic Sensor and Bluetooth Communication in Internet of Things," *KIISE Trans. Comput. Pract.*, 2016, doi: 10.5626/ktcp.2016.22.6.268.

[4] M. R. E. Arlin, M. Niswar, A. Adnan, D. Fall, and S. Kashihara, "LouPe: LoRa Performance Measurement Tool," 2018, doi: 10.1109/EIConCIT.2018.8878525.

[5] K. Mekki, E. Bajic, F. Chaxel, and F. Meyer, "A comparative study of LPWAN technologies for large-scale IoT deployment," *ICT Express*, 2019, doi: 10.1016/j.icte.2017.12.005.

[6] H. Fang, R. Tan, Y. Han, X. Chen, and J. Zhao, "An experimental analysis of snr performance for lora communication," 2018, doi: 10.1109/CompComm.2018.8780989.

[7] Y. Sun, J. Hu, Y. Liu, and Z. Tian, "Theoretical analysis and performance testing of LoRa technology," 2017, doi: 10.1109/ICCTEC.2017.00153.

[8] E. Murdyantoro, I. Rosyadi, and H. Septian, "Studi Performansi Jarak Jangkauan Lora-Dragino Sebagai Infrastruktur Konektifitas Nirkabel Pada WP-LAN," *Din. Rekayasa*, 2019, doi: 10.20884/1.dr.2019.15.1.239.

[9] Z. A. Tan *et al.*, "Analysis on LoRa RSSI in Urban, Suburban, and Rural Area for Handover Signal Strength-Based Algorithm.," 2019, doi: 10.1088/1757-899X/705/1/012012.

[10] Y. Yudhanto, "Apa itu Internet of Things?," *J. Komput.*, vol. 20, no. 3, pp. 1–7, 2007, [Online]. Available: http://ilmukomputer.org.

[11] A. Junaidi, "INTERNET OF THINGS, SEJARAH, TEKNOLOGI DAN PENERAPANNYA : REVIEW," *J. Ilm. Teknol. Inf. Terap.*, 2015.

[12] S. L. Keoh, S. S. Kumar, and H. Tschofenig, "Securing the internet of things: A standardization perspective," *IEEE Internet Things J.*, 2014, doi:

10.1109/JIOT.2014.2323395.

[13] A. Whitmore, A. Agarwal, and L. Da Xu, “The Internet of Things—A survey of topics and trends,” *Inf. Syst. Front.*, 2015, doi: 10.1007/s10796-014-9489-2.

[14] F. Xia, L. T. Yang, L. Wang, and A. Vinel, “Internet of things,” *International Journal of Communication Systems*. 2012, doi: 10.1002/dac.2417.

[15] S. Singh and N. Singh, “Internet of Things (IoT): Security challenges, business opportunities & reference architecture for E-commerce,” 2016, doi: 10.1109/ICGCIoT.2015.7380718.

[16] M. Centenaro, L. Vangelista, A. Zanella, and M. Zorzi, “Long-range communications in unlicensed bands: The rising stars in the IoT and smart city scenarios,” *IEEE Wirel. Commun.*, 2016, doi: 10.1109/MWC.2016.7721743.

[17] P. Devi, D. Istianti, S. Y. Prawiro, N. Bogi, A. Karna, and I. A. Nursafa, “Analisis Performansi Teknologi Akses LPWAN LoRa Antares Untuk Komunikasi Data End Node,” *Citee 2019*, 2019.

[18] A. Carlsson, I. Kuzminykh, R. Franksson, and A. Liljegren, “Measuring a LoRa Network: Performance, Possibilities and Limitations,” *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 11118 LNCS, pp. 116–128, 2018, doi: 10.1007/978-3-030-01168-0_11.

[19] O. Khutsoane, B. Isong, and A. M. Abu-Mahfouz, “IoT devices and applications based on LoRa/LoRaWAN,” 2017, doi: 10.1109/IECON.2017.8217061.

[20] T. M. Workgroup, “What is it ? A technical overview of,” *LoRa Alliance*. 2015, doi: https://www.tuv.com/media/corporate/products_1/electronic_components_and_lasers/TUeV_Rheinland_Overview_LoRa_and_LoRaWANtmp.pdf.

[21] E. D. Widianto, M. S. M. Pakpahan, A. A. Faizal, and R. Septiana, “LoRa QoS Performance Analysis on Various Spreading Factor in Indonesia,” 2019, doi: 10.1109/ISESD.2018.8605471.

[22] D. Magrin, M. Centenaro, and L. Vangelista, “Performance evaluation of LoRa networks in a smart city scenario,” 2017, doi: 10.1109/ICC.2017.7996384.

[23] T. Akhir, P. Devi, D. Istianti, F. T. Elektro, and U. Telkom, “Pemantauan Air Sungai Citarum Menggunakan Teknologi Akses Lpwan Lora” 2019.

[24] W. Dharmawan and A. Kurnianto, “Peningkatan Akurasi Estimasi Jarak Rssi Dengan Model Log Normal Menggunakan Metode Kalman Filter Pada Bluetoooth Low Energy,” no. November 2016, pp. 1–5, 1846.

[25] S. Nindito, N. A. Siswandari, and O. Puspitorini, “ABSTRAK Path loss

exponent," pp. 1–5.

[26] Rappaport, "Rappaport - Wireless Communications,Principles and Practice." pp. 268–583, 2002.

[27] J. Xu, W. Liu, F. Lang, Y. Zhang, and C. Wang, "Distance Measurement Model Based on RSSI in WSN," *Wirel. Sens. Netw.*, 2010, doi: 10.4236/wsn.2010.28072.

[28] Y. S. Cho, J. Kim, W. Y. Yang, and C. G. Kang, *MIMO-OFDM Wireless Communications with MATLAB®*. 2010.

[29] A. D. Haq, I. Santoso, and Z. A. A. Macrina, "Estimasi Signal To Noise Ratio (SNR) Menggunakan Metode Korelasi," *Transient*, vol. 1, no. 4, pp. 1–8, 2012.

[30] Zhang, Rita. 2016. "Get Started with ESP32" [Online]. https://ritazh.com/get--with-esp32-785a111476f2. Diakses pada tanggal 13 Januari 2020

[31] Arduino, "Arduino - Introduction," *Arduino.Cc*. 2015.

[32] Tani, Putra."Arduino Uno: Arduino Uno Robot Line Follower Berbasiskan Sensor Infra Merah". [Online]. https://books.google.co.id/books. Diakses pada 10 Januari 2020

[33] Setiawan, Iwan. 2009. "Sensor dan Transduser". Universitas Diponegoro: Semarang

[34] Putra, B., Rakhmatsyah, A., Prabowo, Sidik. 2017. "Perancangan Sistem Komunikasi Dan Pengolahan Data Pada *Monitoring* Kualitas Udara". E-Proceeding Of Engineering : Vol.4, No.2

[35] Zhou, Y., Zhou, Q., Kong, Q., Cai, W. 2012. "*Wireless temperature & humidity monitor and control System". IEEE*

[36] Akmal. 2019. "Lebih Dekat Dengan Industri 4.0". Yogyakarta: deepublish.

[37] Rayes, A., Salam, S. 2017. "IoT Service platform: Functions and Requirements". Springer International Publishing.

[38] Antares. "Documentation" [Online]. https://antares.id/id/docs.html. Diakses pada tanggal 13 Januari 2020