

DAFTAR PUSTAKA

- Abdeljaber, O., Avci, O., Kiranyaz, S., Gabbouj, M., & Inman, D. J. (2017). Real-time vibration-based structural damage detection using one-dimensional convolutional neural networks. *Journal of Sound and Vibration*, 388, 154–170. <https://doi.org/https://doi.org/10.1016/j.jsv.2016.10.043>
- Achouch, M., Dimitrova, M., Ziane, K., Sattarpanah Karganroudi, S., Dhouib, R., Ibrahim, H., & Adda, M. (2022). On Predictive Maintenance in Industry 4.0: Overview, Models, and Challenges. *Applied Sciences*, 12(16). <https://doi.org/10.3390/app12168081>
- Ahn, J., Lee, Y., Kim, N., Park, C., & Jeong, J. (2023). Federated Learning for Predictive Maintenance and Anomaly Detection Using Time Series Data Distribution Shifts in Manufacturing Processes. *Sensors*, 23(17). <https://doi.org/10.3390/s23177331>
- Ali, A., Shamsuddin, S. M., & Ralescu, A. L. (2013). Classification with class imbalance problem. *Int. J. Advance Soft Compu. Appl*, 5(3), 176–204.
- Asundi, R. V., Prakash, R., & Kumar, K. (n.d.). Class Weight technique for Handling Class Imbalance.
- Azari, M. S., Flammini, F., Santini, S., & Caporuscio, M. (2023). A Systematic Literature Review on Transfer Learning for Predictive Maintenance in Industry 4.0. *IEEE Access*, 11, 12887–12910. <https://doi.org/10.1109/ACCESS.2023.3239784>
- Azure, M. (2020). Microsoft Azure Predictive Maintenance. <https://www.kaggle.com/datasets/arnabbiswas1/microsoft-azure-predictive-maintenance>
- Azyus, A. F., Wijaya, S. K., & Naved, M. (2023). Prediction of remaining useful life using the CNN-GRU network: A study on maintenance management. *Software Impacts*, 17, 100535. <https://doi.org/https://doi.org/10.1016/j.simpa.2023.100535>
- Bagheri, B., Yang, S., Kao, H.-A., & Lee, J. (2015). Cyber-physical Systems Architecture for Self-Aware Machines in Industry 4.0 Environment [15th IFAC Symposium on Information Control Problems in Manufacturing]. *IFAC-PapersOnLine*, 48(3), 1622–1627. <https://doi.org/https://doi.org/10.1016/j.ifacol.2015.06.318>
- Basri, E. I., Abdul Razak, I. H., Ab-Samat, H., & Kamaruddin, S. (2017). Preventive maintenance (PM) planning: a review. *Journal of Quality in Maintenance Engineering*, 23(2), 114–143. <https://doi.org/10.1108/JQME-04-2016-0014>

- Branco, P., Torgo, L., & Ribeiro, R. P. (2016). A Survey of Predictive Modeling on Imbalanced Domains. *ACM Comput. Surv.*, *49*(2). <https://doi.org/10.1145/2907070>
- Cardoso, D., & Ferreira, L. (2021). Application of Predictive Maintenance Concepts Using Artificial Intelligence Tools. *Applied Sciences*, *11*(1). <https://doi.org/10.3390/app11010018>
- Chamikara, M., Bertok, P., Khalil, I., Liu, D., & Camtepe, S. (2021). Privacy preserving distributed machine learning with federated learning. *Computer Communications*, *171*, 112–125. <https://doi.org/https://doi.org/10.1016/j.comcom.2021.02.014>
- Chawla, N. V., Bowyer, K. W., Hall, L. O., & Kegelmeyer, W. P. (2002). SMOTE: Synthetic minority over-sampling technique. *J. Artif. Intell. Res.*, *16*, 321–357.
- Chollet, F. (2019). Imbalanced classification: credit card fraud detection. https://github.com/keras-team/keras-io/blob/1806537c4333fbff1f9fd038b78179beeda480fb/examples/structured_data/imbalanced_classification.py
- Duan, M., Liu, D., Ji, X., Wu, Y., Liang, L., Chen, X., Tan, Y., & Ren, A. (2022). Flexible Clustered Federated Learning for Client-Level Data Distribution Shift. *IEEE Transactions on Parallel and Distributed Systems*, *33*(11), 2661–2674. <https://doi.org/10.1109/TPDS.2021.3134263>
- Gao, R., Wang, L., Teti, R., Dornfeld, D., Kumara, S., Mori, M., & Helu, M. (2015). Cloud-enabled prognosis for manufacturing. *CIRP Annals*, *64*(2), 749–772. <https://doi.org/https://doi.org/10.1016/j.cirp.2015.05.011>
- Ge, N., Li, G., Zhang, L., & Liu, Y. (2022). Failure prediction in production line based on federated learning: an empirical study. *Journal of Intelligent Manufacturing*, *33*(8), 2277–2294. <https://doi.org/10.1007/s10845-021-01775-2>
- Geça, J. (2020). Performance comparison of machine learning algorithms for predictive maintenance. *Inform. Autom. Pomiary w Gospod. Ochr. Śr.*, *10*(3), 32–35.
- Giordano, D., Giobergia, F., Pastor, E., La Macchia, A., Cerquitelli, T., Baralis, E., Mellia, M., & Tricarico, D. (2022). Data-driven strategies for predictive maintenance: Lesson learned from an automotive use case. *Computers in Industry*, *134*, 103554. <https://doi.org/https://doi.org/10.1016/j.compind.2021.103554>

- Gosain, A., & Sardana, S. (2017). Handling class imbalance problem using over-sampling techniques: A review. *2017 International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, 79–85. <https://doi.org/10.1109/ICACCI.2017.8125820>
- Guo, R., Li, H., & Huang, C. (2023). Operation stage division and RUL prediction of bearings based on 1DCNN-ON-LSTM. *Measurement Science and Technology*, 35(2), 025035. <https://doi.org/10.1088/1361-6501/ad0e3a>
- Hard, A., Rao, K., Mathews, R., Beaufays, F., Augenstein, S., Eichner, H., Kiddon, C., & Ramage, D. (2018). Federated Learning for Mobile Keyboard Prediction. *CoRR*, *abs/1811.03604*. <http://arxiv.org/abs/1811.03604>
- Hashemian, H. M. (2011). State-of-the-Art Predictive Maintenance Techniques. *IEEE Transactions on Instrumentation and Measurement*, 60(1), 226–236. <https://doi.org/10.1109/TIM.2010.2047662>
- Henze, M. (2020). The Quest for Secure and Privacy-preserving Cloud-based Industrial Cooperation. *2020 IEEE Conference on Communications and Network Security (CNS)*, 1–5. <https://doi.org/10.1109/CNS48642.2020.9162199>
- Hsieh, K., Phanishayee, A., Mutlu, O., & Gibbons, P. B. (2019). The Non-IID Data Quagmire of Decentralized Machine Learning. *CoRR*, *abs/1910.00189*. <http://arxiv.org/abs/1910.00189>
- Huang, Y., & Hu, C. (2022). Toward Data Heterogeneity of Federated Learning. <https://arxiv.org/abs/2212.08944>
- Jambor-Sadeghi, K., Ketabchi, M. A., Chue, J., & Ghiassi, M. (1994). A Systematic Approach to Corrective Maintenance. *The Computer Journal*, 37(9), 764–778. <https://doi.org/10.1093/comjnl/37.9.764>
- Jiang, K., Lu, J., & Xia, K. (2016). A Novel Algorithm for Imbalance Data Classification Based on Genetic Algorithm Improved SMOTE. *Arabian Journal for Science and Engineering*, 41(8), 3255–3266. <https://doi.org/10.1007/s13369-016-2179-2>
- Konečný, J., McMahan, H. B., Ramage, D., & Richtárik, P. (2016). Federated Optimization: Distributed Machine Learning for On-Device Intelligence. *CoRR*, *abs/1610.02527*. <http://arxiv.org/abs/1610.02527>
- Kotsiantis, S., Kanellopoulos, D., Pintelas, P., et al. (2006). Handling imbalanced datasets: A review. *GESTS international transactions on computer science and engineering*, 30(1), 25–36.

- Li, T., Sahu, A. K., Talwalkar, A., & Smith, V. (2020). Federated Learning: Challenges, Methods, and Future Directions. *IEEE Signal Processing Magazine*, 37(3), 50–60. <https://doi.org/10.1109/MSP.2020.2975749>
- Li, X., Li, D., Wan, J., Vasilakos, A. V., Lai, C.-F., & Wang, S. (2017). A review of industrial wireless networks in the context of Industry 4.0. *Wireless Networks*, 23(1), 23–41. <https://doi.org/10.1007/s11276-015-1133-7>
- Li, X., Ma, X., Xiao, F., Xiao, C., Wang, F., & Zhang, S. (2022). Time-series production forecasting method based on the integration of Bidirectional Gated Recurrent Unit (Bi-GRU) network and Sparrow Search Algorithm (SSA). *Journal of Petroleum Science and Engineering*, 208, 109309. <https://doi.org/https://doi.org/10.1016/j.petrol.2021.109309>
- Liao, W. Z., & Wang, Y. (2011). Dynamic predictive maintenance model based on data-driven machinery prognostics approach. *Appl. Mech. Mater.*, 143-144, 901–906.
- Liu, D., Bai, L., Yu, T., & Zhang, A. (2022). Towards Method of Horizontal Federated Learning: A Survey. *2022 8th International Conference on Big Data and Information Analytics (BigDIA)*, 259–266. <https://doi.org/10.1109/BigDIA56350.2022.9874186>
- Liu, X.-Y., Wu, J., & Zhou, Z.-H. (2009). Exploratory Undersampling for Class-Imbalance Learning. *IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cybernetics)*, 39(2), 539–550. <https://doi.org/10.1109/TSMCB.2008.2007853>
- Liu, Y., Kang, Y., Xing, C., Chen, T., & Yang, Q. (2020a). A Secure Federated Transfer Learning Framework. *IEEE Intelligent Systems*, 35(4), 70–82. <https://doi.org/10.1109/MIS.2020.2988525>
- Liu, Y., Garg, S., Nie, J., Zhang, Y., Xiong, Z., Kang, J., & Hossain, M. S. (2021). Deep Anomaly Detection for Time-Series Data in Industrial IoT: A Communication-Efficient On-Device Federated Learning Approach. *IEEE Internet of Things Journal*, 8(8), 6348–6358. <https://doi.org/10.1109/JIOT.2020.3011726>
- Liu, Y., Zhang, L., Ge, N., & Li, G. (2020b). A Systematic Literature Review on Federated Learning: From A Model Quality Perspective. *CoRR*, *abs/2012.01973*. <https://arxiv.org/abs/2012.01973>
- Maurya, A. (2016). Bayesian optimization for predicting rare internal failures in manufacturing processes. *2016 IEEE International Conference on Big Data (Big Data)*, 2036–2045. <https://doi.org/10.1109/BigData.2016.7840827>

- McMahan, B., Moore, E., Ramage, D., Hampson, S., & Arcas, B. A. y. (2017, 20–22 Apr). Communication-Efficient Learning of Deep Networks from Decentralized Data. In A. Singh & J. Zhu (Eds.), *Proceedings of the 20th International Conference on Artificial Intelligence and Statistics* (pp. 1273–1282, Vol. 54). PMLR. <https://proceedings.mlr.press/v54/mcmahan17a.html>
- McMahan, H. B., Moore, E., Ramage, D., & y Arcas, B. A. (2016). Federated Learning of Deep Networks using Model Averaging. *CoRR*, *abs/1602.05629*. <http://arxiv.org/abs/1602.05629>
- MoyanZitto. (2017). Functional Model Interface. <https://github.com/MoyanZitto/keras-cn/blob/9e73527feb6fb3179c0c94088e9b9a83f4e9910f/docs/models/model.md>
- Nunes, P., Santos, J., & Rocha, E. (2023). Challenges in predictive maintenance – A review. *CIRP Journal of Manufacturing Science and Technology*, *40*, 53–67. <https://doi.org/https://doi.org/10.1016/j.cirpj.2022.11.004>
- Ouda, E., Maalouf, M., & Sleptchenko, A. (2021). Machine Learning and Optimization for Predictive Maintenance based on Predicting Failure in the Next Five Days. *ICORES*, 192–199.
- Pedregosa, F., Varoquaux, G., Gramfort, A., Michel, V., Thirion, B., Grisel, O., Blondel, M., Prettenhofer, P., Weiss, R., Dubourg, V., et al. (2011). Scikit-learn: Machine learning in Python. *the Journal of machine Learning research*, *12*, 2825–2830.
- Pruckovskaja, V., Weissenfeld, A., Heistracher, C., Graser, A., Kafka, J., Leputsch, P., Schall, D., & Kemnitz, J. (2023). Federated Learning for Predictive Maintenance and Quality Inspection in Industrial Applications. *2023 Prognostics and Health Management Conference (PHM)*, 312–317. <https://doi.org/10.1109/PHM58589.2023.00064>
- Rødseth, H., Schjølborg, P., & Marhaug, A. (2017). Deep digital maintenance. *Advances in Manufacturing*, *5*(4), 299–310. <https://doi.org/10.1007/s40436-017-0202-9>
- Samatas, G. G., Moumgiakmas, S. S., & Papakostas, G. A. (2021). Predictive Maintenance - Bridging Artificial Intelligence and IoT. *2021 IEEE World AI IoT Congress (AIIoT)*, 0413–0419. <https://doi.org/10.1109/AIIoT52608.2021.9454173>
- Santos, I. H. F., Machado, M. M., Russo, E. E., Manguinho, D. M., Almeida, V. T., Wo, R. C., Bahia, M., Constantino, D. J. S., Salomone, D., Pesce, M. L., Souza, C., Oliveira, A. C., Lima, A., Gois, J., Tavares, L. G., Prego, T., Netto,

- S., & Silva, E. (2015, October). *Big Data Analytics for Predictive Maintenance Modeling: Challenges and Opportunities* (Vol. Day 3 Thu, October 29, 2015). <https://doi.org/10.4043/26275-MS>
- Sharma, V., Seetharaman, T., BD, V., & Khangaonkar, A. M. (2023). Blockchain and Federated Learning Enabled Smart Traffic Management System for Smart Cities. *2023 4th International Conference on Intelligent Engineering and Management (ICIEM)*, 1–6. <https://doi.org/10.1109/ICIEM59379.2023.10167236>
- Sheller, M. J., Reina, G. A., Edwards, B., Martin, J., & Bakas, S. (2019). Multi-institutional Deep Learning Modeling Without Sharing Patient Data: A Feasibility Study on Brain Tumor Segmentation. In A. Crimi, S. Bakas, H. Kuijf, F. Keyvan, M. Reyes, & T. van Walsum (Eds.), *Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries* (pp. 92–104). Springer International Publishing.
- Shubyn, B., Kostrzewa, D., Grzesik, P., Benecki, P., Maksymyuk, T., Sunderam, V., Syu, J.-H., Lin, J. C.-W., & Mrozek, D. (2023). Federated Learning for improved prediction of failures in Autonomous Guided Vehicles. *Journal of Computational Science*, 68, 101956. <https://doi.org/https://doi.org/10.1016/j.jocs.2023.101956>
- Siami-Namini, S., Tavakoli, N., & Namin, A. S. (2019). The Performance of LSTM and BiLSTM in Forecasting Time Series. *2019 IEEE International Conference on Big Data (Big Data)*, 3285–3292. <https://doi.org/10.1109/BigData47090.2019.9005997>
- Surantha, N., & Gozali, I. D. (2023). Evaluation of the Improved Extreme Learning Machine for Machine Failure Multiclass Classification. *Electronics*, 12(16). <https://doi.org/10.3390/electronics12163501>
- Suzumura, T., Zhou, Y., Barcardo, N., Ye, G., Houck, K., Kawahara, R., Anwar, A., Stavarache, L. L., Klyashtorny, D., Ludwig, H., & Bhaskaran, K. (2019). Towards Federated Graph Learning for Collaborative Financial Crimes Detection. *CoRR*, *abs/1909.12946*. <http://arxiv.org/abs/1909.12946>
- Thabtah, F., Hammoud, S., Kamalov, F., & Gonsalves, A. (2020). Data imbalance in classification: Experimental evaluation. *Information Sciences*, 513, 429–441. <https://doi.org/https://doi.org/10.1016/j.ins.2019.11.004>
- Udo, W., & Muhammad, Y. (2021). Data-Driven Predictive Maintenance of Wind Turbine Based on SCADA Data. *IEEE Access*, 9, 162370–162388. <https://doi.org/10.1109/ACCESS.2021.3132684>

- Wan, J., Tang, S., Li, D., Wang, S., Liu, C., Abbas, H., & Vasilakos, A. V. (2017). A Manufacturing Big Data Solution for Active Preventive Maintenance. *IEEE Transactions on Industrial Informatics*, *13*(4), 2039–2047. <https://doi.org/10.1109/TII.2017.2670505>
- Wei, K., Li, J., Ma, C., Ding, M., Wei, S., Wu, F., Chen, G., & Ranbaduge, T. (2024). Vertical Federated Learning: Challenges, Methodologies and Experiments. <https://arxiv.org/abs/2202.04309>
- Xu, L. D., He, W., & Li, S. (2014). Internet of Things in Industries: A Survey. *IEEE Transactions on Industrial Informatics*, *10*(4), 2233–2243. <https://doi.org/10.1109/TII.2014.2300753>
- Yamashita, R., Nishio, M., Do, R. K. G., & Togashi, K. (2018). Convolutional neural networks: an overview and application in radiology. *Insights into Imaging*, *9*(4), 611–629. <https://doi.org/10.1007/s13244-018-0639-9>
- Yang, C.-Y. (2024). *Robust Predictive Maintenance Framework Based on Federated Learning* [Master's thesis, National Taiwan University of Science and Technology (NTUST)].
- Yang, Q., Liu, Y., Chen, T., & Tong, Y. (2019). Federated Machine Learning: Concept and Applications. *ACM Trans. Intell. Syst. Technol.*, *10*(2). <https://doi.org/10.1145/3298981>
- Yu, Y., Si, X., Hu, C., & Zhang, J. (2019). A Review of Recurrent Neural Networks: LSTM Cells and Network Architectures. *Neural Computation*, *31*(7), 1235–1270. https://doi.org/10.1162/neco_a_01199
- Zhang, S., Zheng, D., Hu, X., & Yang, M. (2015). Bidirectional long short-term memory networks for relation classification. *Proceedings of the 29th Pacific Asia conference on language, information and computation*, 73–78.
- Zhang, W., Yang, D., & Wang, H. (2019). Data-Driven Methods for Predictive Maintenance of Industrial Equipment: A Survey. *IEEE Systems Journal*, *13*(3), 2213–2227. <https://doi.org/10.1109/JSYST.2019.2905565>
- Zhu, H., Xu, J., Liu, S., & Jin, Y. (2021). Federated learning on non-IID data: A survey. *Neurocomputing*, *465*, 371–390. <https://doi.org/https://doi.org/10.1016/j.neucom.2021.07.098>
- Zonta, T., da Costa, C. A., da Rosa Righi, R., de Lima, M. J., da Trindade, E. S., & Li, G. P. (2020). Predictive maintenance in the Industry 4.0: A systematic literature review. *Computers Industrial Engineering*, *150*, 106889. <https://doi.org/https://doi.org/10.1016/j.cie.2020.106889>