

References

- Kang, M., Kim, J., Kim, J. M., Tan, A. C. C., Kim, E. Y., and Choi, B. K., Reliable fault diagnosis for low-speed bearings using individually trained support vector machines with kernel discriminative feature analysis, *IEEE Trans. Power Electron*, vol. 30, pp. 2786–2797, 2015.
- Widodo, A., Kim, E. Y., Son, J.-D., Yang, B.-S., Tan, A. C. C., Gu, D.-S., Choi, B.-K., and Mathew, J., Fault diagnosis of low speed bearing based on relevance vector machine and support vector machine, *Expert Syst. Appl.*, vol. 36, pp. 7252–7261, 2009.
- Islam et al., Reliable bearing fault diagnosis using Bayesian inference-based multi-class support vector machines, *The Journal of the Acoustical Society of America*, vol. 141, EL89, 2017.
- M. M. Tahir et al., Enhancing fault classification accuracy of ball bearing, *IEEE Open Access Journal*, February vol. 20, 2017.
- Al-Raheem and Abdul-Karem, Rolling bearing fault diagnostics using artificial neural networks based on Laplace wavelet analysis, *International Journal of Engineering, Science and Technology*, vol. 2, pp. 278-290, 2010.
- B. Samanta et al., Bearing Fault Detection Using Artificial Neural Networks and Genetic Algorithm, *EURASIP Journal on Applied Signal Processing*, vol. 3, pp. 366–377, 2004.
- O.R. Seryasat et al., Fault detection of rolling bearings using discrete wavelet transform and neural network of SVM, *Advances in Environmental Biology*, vol. 8(6) Special, pp. 2175-2183, 2014.
- Milind Natu, Bearing Fault Analysis Using Frequency Analysis and Wavelet Analysis, *International Journal of Innovation, Management and Technology*, vol. 4, no. 1, February, 2013.
- Anuradha Abewardana and Upul Sonnadara, Classification of Birds using FFT and Artificial Neural Networks, *Proceedings of the Technical Sessions*, Institute of Physics – Sri Lanka, vol. 28, pp. 100-105, 2012.
- D.H. Pandya et al., ANN based fault diagnosis of rolling element bearing using time-frequency domain feature, *International Journal of Engineering Science and Technology (IJEST)*, vol. 4, no.6, June, 2012.
- V.Hariharan and PSS. Srinivasan, New approach of classification of rolling element bearing fault using artificial neural network, *Journal of Mechanical Engineering, Transaction of the Mech. Eng. Div., The Institution of Engineers, Bangladesh*, vol. ME 40, no. 2, December 2009.
- Yuan Xie and Tao Zhang, Fault diagnosis for rotating machinery based on convolutional neural network and empirical mode decomposition, *Hindawi Shock and Vibration*, vol. 2017, Article ID 3084197, 12 pages, 2017.
- Quang Hung Do, Predictions of machine vibrations using artificial neural networks trained by gravitational search algorithm and back-propagation, *International Journal of Artificial Intelligence*, vol. 15, pp. 93-111, 2017.
- Ran Zhang et al., Fault diagnosis from raw sensor data using deep neural networks considering temporal coherence, *sensors*, vol. 17, 549, 2017.
- CaseWestern Reserve University. B.D.C. Seeded Fault Test Data. Available online: <http://csegroups.case.edu/bearingdatacenter/home/> (accessed on 29 October 2018).
- Muhammad Sohaib et al., A hybrid feature model and deep-learning-based bearing fault diagnosis, *Sensors* 2017, 17, 2876; doi:10.3390/s17122876, 2017.
- Mark Hudson Beale, Martin T. Hagan, Howard B. Demuth, Neural Network Toolbox™, *User's Guide*, The MathWorks, Inc.; 2017.

Biographies

Punyisa Kuendee is a doctoral student in the Faculty of Industrial Engineering at King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand. She received a Bachelor of Science degree in General Science from Kasetsart University, Bangkok, Thailand, and a Master of Engineering degree in Industrial Engineering at Chulalongkorn University, Bangkok, Thailand. Her research interests include manufacturing process, operation research, and quality control.

Udom Janjarassuk is an Assistant Professor in Industrial Engineering in the Faculty of Engineering at King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand. He holds a Bachelor of Engineering degree in Electrical Engineering from King Mongkut's Institute of Technology Ladkrabang, a Master of Industrial Engineering and a PhD in Industrial Engineering from Lehigh University, USA. His research interests include automation, simulation, scheduling, and optimization.