

Dongdong WEI

Curriculum Vitae



PhD student, 09/2018 – now

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Department of Mechanical Engineering, University of Alberta

Research Interests: Machine Learning, Fault Diagnostics, and Signal Processing

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I am currently a PhD student at University of Alberta, focusing on machine learning based fault diagnostics for wind turbine drive trains. I have published 5 journal papers and 3 conference papers on this topic.

Apart from academic work, my passion goes to music, badminton, travelling, etc. I am always open to learning new things.

EDUCATION

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| • University of Alberta | Edmonton, Canada |
| PhD student - Mechanical Engineering | 09/2018 - now |
| • University of Electronic Science and Technology of China | Chengdu, P.R.China |
| Master - Mechanical Engineering | 09/2015 - 06/2018 |
| Bachelor - Internet of Things | 09/2011 - 06/2015 |

HONOR & AWARDS

- 2019, PHM Data Challenge 3rd place
- 2018, CSC scholarship awardee
- 2017, Second prize in National Post-Graduate Scholarship
- 2016, Third prize in National Post-Graduate Scholarship
- 2015, Outstanding bachelor dissertation
- 2014, Third-Class People's Scholarship

Skills

- Languages: Mandarin (mother tongue) and English
- Software: Python, MATLAB, LaTeX, Microsoft Office

Activities

- FEGRS2020, Co-Chair External Relations
- UofA Concert Choir
- Volunteer at the 2016 UNESCO Asian Youth Dialogue
- Volunteer at PHM-2016 Chengdu of IEEE Reliability Society
- Campus ambassador in the 60th anniversary of UESTC
- Inheritor of national intangible cultural heritage of China

Journal Papers:

1. Rao, M., Li, Q., **Wei, D.** and Zuo, M.J., 2020. A deep bi-directional long short-term memory model for automatic rotating speed extraction from raw vibration signals. *Measurement*, 158, p.107719.
2. Chen, P., Wang, K., Zuo, M.J. and **Wei, D.**, 2019. An ameliorated synchroextracting transform based on upgraded local instantaneous frequency approximation. *Measurement*, 148, p.106953.
3. Zhang, M., Wang, K., **Wei, D.** and Zuo, M.J., 2018. Amplitudes of characteristic frequencies for fault diagnosis of planetary gearbox. *Journal of Sound and Vibration*, 432, pp.119-132.
4. **Wei, D.**, Wang, K., Zhang, M. and Zuo, M.J., 2018. Sweep excitation with order tracking: A new tactic for beam crack analysis. *Journal of Sound and Vibration*, 420, pp.129-141.
5. Feng, K., Wang, K., Ni, Q., Zuo, M.J. and **Wei, D.**, 2017. A phase angle based diagnostic scheme to planetary gear faults diagnostics under non-stationary operational conditions. *Journal of Sound and Vibration*, 408, pp.190-209.

Conference Papers:

1. **Wei, D.**, Wang, K., Heyns, S. and Zuo, M.J., 2018, June. Convolutional Neural Networks for Fault Diagnosis Using Rotating Speed Normalized Vibration. In *International Conference on Condition Monitoring of Machinery in Non-Stationary Operation 2018* (pp. 67-76). Springer, Cham. Santander, Spain, June 20-22, 2018.
2. Zhang, M., **Wei, D.**, Wang, K. and Zuo, M.J., 2019. A Modified Sideband Energy Ratio for Fault Detection of Planetary Gearboxes. In *12th World Congress on Engineering Asset Management (WCEAM)* (pp. 753-761). Springer, Cham. Brisbane, Australia, August 2-4, 2017.
3. Zhang, M., Wang, K. and **Wei, D.**, 2017, August. An Order Analysis Based Second-Order Cyclic Function Technique for Planetary Gear Fault Detection. In *2017 International Conference on Sensing, Diagnostics, Prognostics, and Control (SDPC)* (pp. 678-682). IEEE. Shanghai, China, August 16-18, 2017.