

## EDUCATION

<b>Nanyang Technological University, School of Electronic Engineering</b>	2014.10-
● Research Fellow, Advised by Prof. Wenjian Cai	2016.2
<b>Old Dominion University, School of Mechanical Engineering</b>	2014.10-
● Exchange Ph.D student of Mechatronic Engineering, Advised by Prof. Mileta M. Tomovic	2016.2
<b>Bei Hang University, School of Automation Science and Electrical Engineering</b>	2011.9-
● Ph.D student of Mechatronic Engineering, Advised by Prof. Shaoping Wang.	2016.6
<b>Bei Hang University, School of Automation Science and Electrical Engineering</b>	2010.9-
● Master student of Mechatronic Engineering, Advised by Prof. Shaoping Wang, Recommended as a Ph.D student in 2011	2011.7
<b>Bei Hang University, School of Automation Science and Electrical Engineering</b>	2006.9-
● Undergraduate student of Mechatronic Engineering, Recommended for Master Program in 2010	2010.7

## RESEARCH AND WORK EXPERIENCE

<b>Measurement and Verification of Chilled-water Plant (National Research Foundation Singapore: Energy Innovation Research Programme)</b>	<b>Research Fellow</b> NTU, SG	2017.7- Present
● As the project team leader, plan research program and manage technical details.		
<b>LNG Tank Monitoring and Cold Energy Recovery (National Research Foundation Singapore: Energy Innovation Research Programme)</b>	<b>Research Fellow</b> NTU, SG	2016.9- Present
● As the project team leader, plan research program and manage technical details.		
<b>Multiple Channels Communication for Cell Robots</b>	<b>Senior Engineer</b> Keyi Tech, CN	2016.6- 2016.8
● Designed communication protocol and implemented the functions such as ad-hoc networks, topology pattern identification and relay communication.		
<b>Online Debris Monitoring and Mechanical life Prediction (Natural Science Foundation of China)</b>	<b>PhD student</b> BHU, CN	2012.9- 2014.10
● Designed an online debris sensor, developed some signal process methods to improve sensitivity and eliminate signal overlapping and studied debris generation behavior.	<b>Visiting Student</b> ODU, US	2014.10- 2016.2

<p><b>Enhanced EEG Signal for Control Application</b></p> <ul style="list-style-type: none"> <li>● Studied on linear feedback based on mechanical vibration to enhance stability of EEG signal for control application.</li> </ul>	<p><b>Exchange student</b> ODU, US</p>	<p>2015.5- 2015.8</p>
<p><b>Wearable Sensor System for Recognizing Human Activity</b></p> <ul style="list-style-type: none"> <li>● Designed a low-power sensor system by MEMS IMU to collect data of human activity and recognize behavior state.</li> </ul>	<p><b>Hardware Engineer</b> Fengniao Tech, CN</p>	<p>2014.4- 2014.8</p>
<p><b>Seal Performance Evaluation for Hydraulic System</b></p> <ul style="list-style-type: none"> <li>● Studied physical and chemical mechanism of rubber aging, built seal degradation model and designed long term monitoring system for seal aging.</li> </ul>	<p><b>PhD student</b> BHU, CN</p>	<p>2012.6- 2014.9</p>
<p><b>Long-Distance Communication in Power Line</b></p> <ul style="list-style-type: none"> <li>● Designed a both-way communication between 3km and applied in exploration equipment.</li> </ul>	<p><b>Hardware Engineer</b> Huarui Energy, CN</p>	<p>2012.4- 2013.12</p>
<p><b>Hydraulic Servo Controller for Helicopter Experiment</b></p> <ul style="list-style-type: none"> <li>● Built a servo system with three hydraulic actuators for testing performance of helicopter wind</li> </ul>	<p><b>Master student</b> BHU, CN</p>	<p>2010.9- 2012.12</p>
<p><b>9th National Preliminary Contest of ABU Robocon (Robot Contest by Asia-Pacific Broadcast Union)</b></p> <ul style="list-style-type: none"> <li>● As the captain of BHU robot team, managed technical details and designed a manual robot.</li> </ul>	<p><b>Team Leader</b> BHU, CN</p>	<p>2009.9- 2010.6</p>
<p><b>8th National Preliminary Contest of ABU Robocon (Robot Contest by Asia-Pacific Broadcast Union)</b></p> <ul style="list-style-type: none"> <li>● As a core member, designed an electro-optical navigation system based on existing grids.</li> </ul>	<p><b>Core Member</b> BHU, CN</p>	<p>2008.9- 2009.6</p>
<p><b>Reconfigurable Robot System Based on Electromagnet</b></p> <ul style="list-style-type: none"> <li>● Designed a multiple robots system in which the robots can communicate through wireless and reconfigure by Electromagnet.</li> </ul>	<p><b>Project Leader</b> BHU, CN</p>	<p>2008.4- 2009.5</p>
<p><b>7th National Preliminary Contest of ABU Robocon (Robot Contest by Asia-Pacific Broadcast Union)</b></p> <ul style="list-style-type: none"> <li>● As a core member, designed the servo controller for gripper.</li> </ul>	<p><b>Core Member</b> BHU, CN</p>	<p>2007.9- 2008.6</p>

## PROFESSIONAL SKILLS

- Be experienced in designing digital and analogue circuits.
- Be experienced in processing signal and data.
- Be experienced in developing embedded systems (MC51,AVR,STM,MSP,ARM).

- Be experienced in programming with Matlab, C#, LabView, LabWindows/CVI.
- Be experienced in machining techniques and mechanical design using SolidWorks.

## HONORS

- Excellent Graduate of Beihang University 2016
- Scholarship for Exchange Ph.D Candidate from Chinese Scholarship Council 2014
- Annual “SMC” Scholarship of BHU 2013
- The Best Paper of International Conference on Fluid Power and Mechatronics 2011
- Excellent Graduate of Beijing 2010
- 9th National Preliminary Contest of ABU Robocon, Top 16 2010
- 19th BHU “Fengru” Cup Student Scientific Contest, First Prize 2009
- Annual “Tech Star” of BHU 2009
- Annual “Citicorp” Scholarship of BHU 2009
- Annual Excellent Student Cadre of BHU 2008
- Annual Excellent Student Cadre of School of ASEE 2007

## PUBLICATIONS

- **W. Hong**, S. Shen, Z. Wang, Z. Wang, and W. Cai\*, "A cryogenic sensor based on fiber Bragg grating for storage monitoring of liquefied natural gas," *Cryogenics*, vol. 97, pp. 7-12, 2019/01/01/ 2019. **JCR 36/59 (Q3), IF: 1.196**, IDO: 10.1016/j.cryogenics.2018.11.001
- T. Li, S. Wang, E. Zio, J. Shi\*, and **W. Hong**, "Aliasing Signal Separation of Superimposed Abrasive Debris Based on Degenerate Unmixing Estimation Technique," *Sensors*, vol. 18, p. 866, 2018. **JCR 10/58 (Q1), IF: 2.964**, DOI: 10.3390/s18030866
- **W. Hong**, S. Wang\*, M. M. Tomovic, H. Liu, J. Shi, and X. Wang, "A Novel Indicator for Mechanical Failure and Life Prediction Based on Debris Monitoring," *IEEE Transactions on Reliability*, vol. 66, pp. 161-169, 2017. **JCR 15/106(Q1), IF:3.302**, DOI: 10.1109/TR.2016.2628412
- **W. Hong**, S. Wang\*, H. Liu, M. M. Tomovic, and Z. Chao, "A hybrid method based on Band Pass Filter and Correlation Algorithm to improve debris sensor capacity," *Mechanical Systems and Signal Processing*, vol. 82, pp. 1-12, 1/1/ 2017. **JCR 4/130(Q1), IF: 4.874**, DOI:10.1016/j.ymsp.2015.10.002.
- **W. Hong**, W. Cai, S. Wang\*, and M. M. Tomovic, "Mechanical wear debris feature, detection, and diagnosis: A review," *Chinese Journal of Aeronautics*, 2017/12/05/ 2017. **JCR 10/31(Q2), IF: 1.469**, DOI:10.1016/j.cja.2017.11.016
- **W. Hong**, S. Wang, M. M. Tomovic, H. Liu, and X. Wang\*, "A new debris sensor based on dual excitation sources for online debris monitoring," *Measurement Science and Technology*, vol. 26, p. 095101, 2015. **JCR 29/85(Q2), IF: 1.768**, WOS: 000364329200022, DOI:10.1088/0957-0233/26/9/095101.

- **W. Hong**, S. Wang, M. Tomovic, L. Han, and J. Shi, "Radial inductive debris detection sensor and performance analysis," *Measurement Science and Technology*, vol. 24, p. 125103, 2013. **JCR 29/85(Q2), IF: 1.768**, DOI: 10.1088/0957-0233/24/12/ 125103.
- **Wei Hong**, Suping Shen and Wenjian Cai. A cryogenic sensor based on Fiber Bragg Grating for Storage Monitoring of Liquefied Natural Gas, *2018 International Conference on Control and Automation*.
- Shaoping Wang\*, **Wei Hong**, Jian Shi, Mileta Tomovic, Integrated Aging Model of Rubber Seal Ring Based on Material Structure Reconfiguration, *2013 International Conference on Industrial Electronics and Applications*, EI: 20133416633990 DIO:10.1109/ICIEA.2013.6566523
- **Wei Hong\***, Shaoping Wang, Xingjian Wang, Wenjie Wang, Overview of storage reliability for high reliability products, *2012 International Conference on Industrial Informatics*, EI: 20124515642556 DOI: 10.1109/INDIN.2012. 6301195
- Lei Han, **Wei Hong**, Shaoping Wang\*, The key points of inductive wear debris sensor, *2011 International Conference on Fluid Power and Mechatronics*, EI: 20114514502628, DOI: 10.1109/FPM.2011.6045873
- **Wei Hong**, Shaoping Wang\*, Daoyan Shui, Reconfigurable Robot System Based on Electromagnetic Design, *2011 International Conference on Fluid Power and Mechatronics*, EI: 20114514502587 DOI: 10.1109/FPM.2011.6045828 **The best paper**
- **Wei. Hong**, Shaoping Wang\*. A General Correction Method based on Artificial Neural Network for Overlapping Error of Non-Periodic Waveforms. *Mechanical Systems and Signal Processing*, 2017. **JCR 4/130(Q1), IF: 4.874**, Under Review
- **Wei. Hong**, Shaoping Wang\*. Study on the Aliasing Error in Oil Debris Monitoring and its Elimination, *Mechanical Systems and Signal Processing*, 2017. **JCR 4/130(Q1), IF: 4.874**, Under Review
- **Wei. Hong**, Shaoping Wang\*. A Hybrid Method based on Multiple Correlation Windows to Improve Sensitivity and Adaptability of Debris Sensor, *Measurement Science and Technology*, **JCR 29/85(Q2), IF: 1.768**, Under Review