

## Dr. Ke Chen

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## Research Interests

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- Evolutionary Algorithm, particularly Particle Swarm Optimization
- Feature Selection, Feature Construction and Dimension Reduction
- Image Analysis, Image Classification
- Evolutionary deep learning

## Education

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2018-Present: **Visiting Scholars**, *Computer Science*, Victoria University of Wellington (two years)  
2017-Present: **Doctor of Philosophy**, *Pattern Recognition and Intelligent System*, Shandong University  
2014-2017: **Masters of Engineering**, *Control Engineering*, Yanshan University  
2010-2014: **Bachelor of Engineering**, *Automation*, Weifang University

## Publications

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**Google Scholar:** <https://scholar.google.com.hk/citations?user=cUh3dO8AAAAJ&hl=en>

**Refereed Journal Articles**.....

- [1] **Ke Chen**, Fengyu Zhou, Lei Yin, Shuqian Wang, Yugang Wang, Fang Wan, A hybrid particle swarm optimizer with sine cosine acceleration coefficients, *Information Sciences*, 2018, 422: 218-241. (SCI, IF=5.524)  
<https://doi.org/10.1016/j.ins.2017.09.015>
- [2] **Ke Chen**, Fengyu Zhou, Aling Liu, Chaotic dynamic weight particle swarm optimization for numerical function optimization, *Knowledge-Based Systems*, 2018, 139: 23-40. (SCI, IF=5.101)  
<https://doi.org/10.1016/j.knosys.2017.10.011>
- [3] **Ke Chen**, Fengyu Zhou, Yugang Wang, Lei Yin, An ameliorated particle swarm optimizer for solving numerical optimization problems, *Applied Soft Computing*, 2018, 73: 482-496. (SCI, IF=4.873)  
<https://doi.org/10.1016/j.asoc.2018.09.007>
- [4] **Ke Chen**, Fengyu Zhou, Xianfeng Yuan, Hybrid Particle Swarm Optimization with Spiral-Shaped Mechanism for Feature Selection, *Expert Systems with Applications*, 2019, 128: 140-156. (SCI,

**IF=4.292)**

<https://doi.org/10.1016/j.eswa.2019.03.039>

- [5] Peifeng Niu, **Ke Chen**\*, Yunpeng Ma, Xia Li, Aling Liu, Guoqiang Li, Model turbine heat rate by fast learning network with tuning based on ameliorated krill herd algorithm, *Knowledge-Based Systems*, 2017, 118: 80-92. (**SCI, IF=5.101, Corresponding Author**)  
<https://doi.org/10.1016/j.knosys.2016.11.011>
- [6] Chao Liu, Peifeng Niu, Guoqiang Li, Yunpeng Ma, Weiping Zhang, **Ke Chen**, Enhanced shuffled frog-leaping algorithm for solving numerical function optimization problems, *Journal of Intelligent Manufacturing*, 2018, 29(5): 1133-1153. (**SCI, IF=3.535**)  
<https://doi.org/10.1007/s10845-015-1164-z>
- [7] Peifeng Niu, **Ke Chen**\*, Aling Liu, Yunpeng Ma, Zhen Zhao, Guoqiang Li, Study on the Optimal Initial Pressure of a Steam Turbine Unit Based on Krill Herd Algorithm, *Journal of Chinese Society of Power Engineering*, 2017, 37(8): 615-621. (**Corresponding Author, In Chinese**)
- [8] Peifeng Niu, **Ke Chen**, Yunpeng Ma, Qingchong Zhao, Guoqiang Li, Modelling of Turbine Heat Rate Based on Krill Herd Algorithm and Its Application, *Journal of Chinese Society of Power Engineering*, 2016, 36(10):781-787. (*In Chinese*)
- [9] Yunpeng Ma, Peifeng Niu, **Ke Chen**, Shanshan Yan, Guoqiang Li, Optimize NOx emissions model of boiler based on chaos group teaching-learning-based optimization algorithm, *Acta Metrologica Sinica*, 2017, 39(1): 125-129. (*In Chinese*)
- [10] Xia Li, Peifeng Niu, Yunpeng Ma, **Ke Chen**, Qiuya Wang, NOx emission reduction of a boiler based on ameliorated chicken swarm optimization, *Journal of Chinese Society of Power Engineering*, 2017, 37(4): 293-300. (*In Chinese*)
- [11] Peifeng Niu, Zhen Zhao, Yunpeng Ma, **Ke Chen**, Qiuya Wang, Qingchong Zhao, Model improvement for Boiler NOx emission based on wind driven optimization algorithm, *Journal of Chinese Society of Power Engineering*, 2016, 36(9): 732-738. (*In Chinese*)
- [12] Peifeng Niu, Qiuya Wang, Yunpeng Ma, Qingchong Zhao, **Ke Chen**, Zhen Zhao, Study on NOx Emission from Boiler Based on Quantum Adaptation Bird Swarm Algorithm, *Acta Metrologica Sinica*, 2017, 38(6): 770-775. (*In Chinese*)

**Refereed International Conference Papers.....**

- [13] **Ke Chen**, Fengyu Zhou, Bing Xue, Particle Swarm Optimization for Feature Selection with Adaptive Mechanism and New Updating Strategy, *Australasian Joint Conference on Artificial Intelligence*, Springer, Cham, 2018: 419-431.  
[https://link.springer.com/chapter/10.1007/978-3-030-03991-2\\_39](https://link.springer.com/chapter/10.1007/978-3-030-03991-2_39)

**Submitted Papers.....**

- [14] **Ke Chen**, Bing Xue, Mengjie Zhang, Fengyu, Zhou, Novel Chaotic Grouping Particle Swarm Optimization with A Dynamic Regrouping Strategy for Solving Numerical Optimization Tasks,

Submitted to *Knowledge-Based Systems*.

**Patents**.....

- [15] 2018, Data feature selection method and system based on improved particle swarm optimization, No. 201810844459.8 (*In process*)

## Research Grants

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- [1] 2015-2017: Research on biologically-inspired algorithm and its application in boiler combustion optimization, supported by the National Natural Science Foundation of China (No.61403331).
- [2] 2015-2017: Research and application of the artificial bee colony and quantum fast learning network for predicting NO<sub>x</sub> emissions and boiler efficiency from a Coal-Fired Boiler, supported by the National Natural Science Foundation of China (No.61573306).
- [3] 2017-2018: Research on autonomous human activity learning method supported by intelligent space, supported by the National Natural Science Foundation of China (No.61375084).
- [4] 2017-2019: Research on self-diagnosing method of service robots supported by cloud computing, supported by the National Natural Science Foundation of China (No.61773242).
- [5] 2018-2020: Service robot cloud service platform, supported by National Key Research & Development Program of China (No. 2017YFB1302400).

## Awards

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- 2018: Oversea Ph.D Scholarship (Awarded by China Scholarship Council)
- 2018: National Scholarship of China
- 2018: National First-Class academic Scholarships
- 2018: Excellent master's thesis in Hebei Province
- 2018: Shandong University Excellent Graduate Cadre Scholarship
- 2018: Second Prize of Shandong University Graduate Outstanding Academic Achievement Award
- 2018: Excellent Master's Thesis of Yanshan University
- 2018: Excellent student award of Shandong University
- 2018: Third Prize of "Huawei Cup" 15th China Graduate Mathematical Modeling Contest
- 2017: Second Prize of "Huawei Cup" 15th China Graduate Mathematical Modeling Contest
- 2017: Outstanding Graduate of Yanshan University
- 2017: National First-Class academic Scholarships
- 2016: Be recommended for admission to be a postgraduate without entrance examination
- 2016: Excellent student award of Yanshan University
- 2016: National First-Class academic Scholarships
- 2015: Excellent student award of Yanshan University
- 2015: National First-Class academic Scholarships
- 2014: Outstanding Graduate of Weifang City

## Professional Services

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### Reviewer of Journal

- Journal of Computational and Applied Mathematics (*SCI*)
- Swarm and Evolutionary Computation (*SCI*)
- Soft Computing (*SCI*)
- Journal of Jilin University Engineering and Technology Edition (*EI*)

### Reviewer of Conference

- Chinese Automation Congress & Intelligent Manufacturing International Conference (CAC & CIMIC 2017)
- Chinese Control and Decision Conference (CCDC 2017)

## Computer Skills

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- Programming: MATLAB, Python
- Typography: LATEX, Microsoft Office
- Operating Systems: Windows, Linux

## Links

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- Homepage: <https://ckzixf.github.io/index.html>
- Google Scholar: <https://scholar.google.com.hk/citations?user=cUh3dO8AAAAJ&hl=en>
- ResearchGate: [https://www.researchgate.net/profile/Ke\\_Chen100](https://www.researchgate.net/profile/Ke_Chen100)