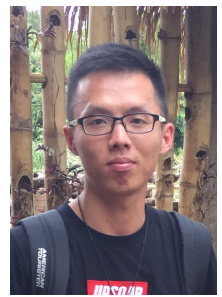


Zefeng Chen

(Born: Nov. 1990, Nationality: Chinese)



CONTACT INFORMATION

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Homepage: <https://chzfeng.github.io/>

RESEARCH INTERESTS

Evolutionary Computation: multi-objective/many-objective optimization, expensive optimization, multifactorial optimization, application of evolutionary algorithm.

WORK EXPERIENCE

- **Research Fellow** **Oct. 2019 – Present**
School of Computer Science and Engineering, **Nanyang Technological University (NTU)**, Singapore
Supervisor: Prof. Yew-Soon Ong

EDUCATION

Sun Yat-sen University (SYSU), Guangdong Province, China

Ph.D., School of Data and Computer Science

Sep. 2016 – Jun. 2019

- **Major:** Computer Science and Technology
- **Supervisor:** Prof. Yuren Zhou
- **PhD Thesis:** Research on Multi-objective Evolutionary Algorithms in Different Scenarios

South China University of Technology (SCUT), Guangdong Province, China

M.Sc., School of Computer Science and Engineering

Sep. 2013 – Jun. 2016

- **Major:** Computer Science and Technology (**Recommended & Exam-exempted**)
- **Supervisor:** Prof. Yuren Zhou
- **Postgraduate Thesis:** Research on the Improvements of Multi-objective Evolutionary Algorithms

Sun Yat-sen University (SYSU), Guangdong Province, China

B.Sc., School of Mathematics and Computational Science

Sep. 2009 – Jun. 2013

- **Major:** Information and Computational Science (**GPA: Top 5%**)
- **Undergraduate Thesis:** Design and Implementation of a Classification Model Based on Support Vector Machine

JOURNAL PAPERS

1. Yuren Zhou, Zefeng Chen, and Jun Zhang, "Ranking vectors by means of the dominance degree matrix," *IEEE Transactions on Evolutionary Computation*, vol. 21, no. 1, pp. 34-51, Feb. 2017. (**Q1, IF: 8.508, SNIP: 4.854**) (The 1st author is my Ph.D. supervisor.)
2. Zefeng Chen, Yuren Zhou, and Yi Xiang, "A many-objective evolutionary algorithm based on a projection-assisted intra-family election," *Applied Soft Computing*, vol. 61, pp. 394-411, Dec. 2017. (**Q1, IF: 4.873, SNIP: 2.369**)
3. Zefeng Chen, Yuren Zhou, Xiaorong Zhao, Yi Xiang, and Jiahai Wang, "A historical solutions based evolution operator for decomposition-based many-objective optimization," *Swarm and Evolutionary Computation*, vol. 41, pp. 167-189, Aug. 2018. (**Q1, IF: 6.33, SNIP: 2.841**)

4. **Zefeng Chen**, Yuren Zhou, and Yi Xiang, "Towards efficiently searching triple product property triples: Deterministic and randomized algorithms," *Applied Soft Computing*, vol. 75, pp. 349-357, Feb. 2019. (**Q1, IF: 4.873, SNIP: 2.369**)
5. **Zefeng Chen**, Yuren Zhou, and Xiaoyu He, "Handling expensive multi-objective optimization problems with a cluster-based neighborhood regression model," *Applied Soft Computing*, vol. 80, pp. 211-225, Jul. 2019. (**Q1, IF: 4.873, SNIP: 2.369**)
6. Zhengxin Huang, Yuren Zhou, **Zefeng Chen**, Xiaoyu He, Xinsheng Lai, and Xiaoyun Xia, "Running Time Analysis of MOEA/D on Pseudo-Boolean Functions," *IEEE Transactions on Cybernetics*, 2019, accepted. (**Q1, IF: 10.387, SNIP: 3.536**)
7. Xiaoyu He, Yuren Zhou, **Zefeng Chen**, Jun Zhang, and Wei-neng Chen, "Large-Scale Evolution Strategy Based on Search Direction Adaptation," *IEEE Transactions on Cybernetics*, 2019, accepted. (**Q1, IF: 10.387, SNIP: 3.536**)
8. Yuren Zhou, Yi Xiang, **Zefeng Chen**, Jun He, and Jiahai Wang, "A Scalar Projection and Angle-Based Evolutionary Algorithm for Many-Objective Optimization Problems," *IEEE Transactions on Cybernetics*, vol. 49, no. 6, pp. 2073-2084, Jun. 2019. (**Q1, IF: 10.387, SNIP: 3.536**)
9. Yi Xiang, Yuren Zhou, **Zefeng Chen**, and Jun Zhang, "A Many-Objective Particle Swarm Optimizer With Leaders Selected From Historical Solutions by Using Scalar Projections," *IEEE Transactions on Cybernetics*, 2018, accepted. (**Q1, IF: 10.387, SNIP: 3.536**)
10. Xiaoyu He, Yuren Zhou, and **Zefeng Chen**, "An Evolution Path-Based Reproduction Operator for Many-Objective Optimization," *IEEE Transactions on Evolutionary Computation*, vol. 23, no. 1, pp. 29-43, Feb. 2019. (**Q1, IF: 8.508, SNIP: 4.854**)
11. Xiaoyu He, Yuren Zhou, and **Zefeng Chen**, "Evolutionary Bilevel Optimization based on Covariance Matrix Adaptation," *IEEE Transactions on Evolutionary Computation*, vol. 23, no. 2, pp. 258-272, Apr. 2019. (**Q1, IF: 8.508, SNIP: 4.854**)
12. Xiaoyu He, Yuren Zhou, **Zefeng Chen**, and Qingfu Zhang, "Evolutionary Many-objective Optimization based on Dynamical Decomposition," *IEEE Transactions on Evolutionary Computation*, vol. 23, no. 3, pp. 361-375, Jun. 2019. (**Q1, IF: 8.508, SNIP: 4.854**)
13. Yi Xiang, Yuren Zhou, and **Zefeng Chen**, "A local search based restart evolutionary algorithm for finding triple product property triples," *Applied Intelligence*, vol. 48, no. 9, pp. 2894-2911, Sep. 2018. (**Q1, IF: 2.882, SNIP: 1.561**)
14. Yi Xiang, Yuren Zhou, Miqing Li, and **Zefeng Chen**, "A Vector Angle-Based Evolutionary Algorithm for Unconstrained Many-Objective Optimization," *IEEE Transactions on Evolutionary Computation*, vol. 21, no. 1, pp. 131-152, Feb. 2017. (**Q1, IF: 8.508, SNIP: 4.854**)
15. Yi Xiang, Yuren Zhou, Langping Tang, and **Zefeng Chen**, "A Decomposition-Based Many-Objective Artificial Bee Colony Algorithm," *IEEE Transactions on Cybernetics*, vol. 49, no. 1, pp. 287-300, Jan. 2019. (**Q1, IF: 10.387, SNIP: 3.536**)
16. Yi Xiang, Jing Peng, Yuren Zhou, Miqing Li, and **Zefeng Chen**, "An angle based constrained many-objective evolutionary algorithm," *Applied Intelligence*, vol. 47, no. 3, pp. 705-720, Oct. 2017. (**Q1, IF: 2.882, SNIP: 1.561**)

CONFERENCE
PAPERS

1. **Zefeng Chen**, Yuren Zhou, Xiaoyu He, and Siyu Jiang, “A Restart-based Rank-1 Evolution Strategy for Reinforcement Learning,” *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI-19)*, 2019. (**Oral Presentation**)
2. **Zefeng Chen**, Yuren Zhou, and Zhengxin Huang, “Auto-creation of Effective Neural Network Architecture by Evolutionary Algorithm and ResNet for Image Classification,” *Proceedings of 2019 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC 2019)*, 2019.
3. Zhengxin Huang, Yuren Zhou, **Zefeng Chen**, and Xiaoyu He, “Running Time Analysis of MOEA/D with Crossover on Discrete Optimization Problem,” *Proceedings of the Thirty-Third AAAI Conference on Artificial Intelligence (AAAI-19)*, 2019.
4. Langping Tang, Yuren Zhou, and **Zefeng Chen**, “A Dominance-Based Constrained Optimization Evolutionary Algorithm for the 4-th Tensor Power Problem of Matrix Multiplication,” *Proceedings of the 4th International Conference on Cloud Computing and Security (ICCCS 2018)*, 2018.
5. Yuchen Lian, Zhengxin Huang, Yuren Zhou, and **Zefeng Chen**, “Improve Theoretical Upper Bound of $Jump_k$ Function by Evolutionary Multitasking,” *Proceedings of the 2019 3rd High Performance Computing and Cluster Technologies Conference (HPCCT 2019)*, 2019. (**Oral Presentation**)

ACADEMIC
ACTIVITIES

- Talks:
 - ‡ “**A Restart-based Rank-1 Evolution Strategy for Reinforcement Learning**”, in *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI-19)*, Aug. 2019.
- Reviewer of several international journals including:
 - ‡ *IEEE Transactions on Evolutionary Computation*
 - ‡ *IEEE Transactions on Cybernetics*
 - ‡ *IEEE Transactions on Systems, Man and Cybernetics: Systems*
 - ‡ *Information Sciences*
 - ‡ *Applied Soft Computing*
 - ‡ *IEEE Access*
- Member of several scientific research projects including:
 - ‡ *General Program of National Natural Science Foundation of China* “**Study of Evolutionary Algorithms for Matrix Multiplication Problem**”
 - ‡ *General Program of National Natural Science Foundation of China* “**Analysis and Design of Many-objective Evolutionary Algorithms**”
 - ‡ *Scientific Research Special Plan of Guangzhou Science and Technology Programme* “**Technology and Theory of Many-objective Evolutionary Algorithms**”

INTERNSHIP
EXPERIENCE

- **Face recognition algorithm for attendance machine** **Oct. 2012 – Jun. 2013**
SYSU & Guangzhou Comet Co., Ltd. Supervisor: *Prof. Lihua Yang*
 Main tasks: Designing, implementing and testing algorithms for localization of facial features.

HONORS AND
AWARDS

- Outstanding Graduate Students in **Guangdong Province** 2019
- Shenzhen Stock Exchange (SZSE) Scholarship 2018
 (Only one quota for PhD students majoring in computer science)
- Second Prize PhD Scholarship of **SYSU (Top 2)** 2017,2018
- Outstanding Graduate Students in **SYSU** 2017
- Third Prize Doctoral Scholarship of **SYSU** 2016
- First Prize Postgraduate Scholarship of **SCUT** 2013,2014,2015

- Outstanding Graduates in **SYSU** 2013
- Excellent League Members in **SYSU** 2012
- Liu Yongsheng Scholarship for Outstanding Students Under Poverty 2012
- First Prize Scholarship of **SYSU** (**Top 5%**) 2012
- Zeng Xianzi Excellent Student Scholarship 2011,2012,2013
- Second Prize in Guangdong Contest District in China Undergraduate Mathematical Contest in Modeling (**CUMCM**) 2011
- National Encouragement Scholarship (Ministry of Education, China) 2011
- Second Prize Scholarship of **SYSU** 2011
- Asian Games Volunteer Service Advanced Individuals in **SYSU** 2010
- Third Prize Scholarship of **SYSU** 2010

SKILLS

- Strong research sense.
- Good at mathematics & algorithms.
- Good English literacy.
- Programming: \LaTeX , **MATLAB**, C/C++, JAVA, Python.