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## Work

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|---|---|
| 2021-now | Research Assistant Professor<br>Southern University of Science and Technology, China |
| 2019-2021 | Post-Doctoral Fellow of Computer Science and Technology<br>Southern University of Science and Technology, China<br>PI: Chair Prof. Yuhui Shi |

## Education

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|---|---|
| 2019 | Ph.D. in Management Science and Engineering<br>Beijing University of Technology, China |
| 09/2017-09/2018 | Joint Ph.D. Student in Computer Science<br>University of New South Wales, Australia |
| 2014 | M.Sc. in Management Science and Engineering<br>North University of China, China |
| 2011 | B.Sc. in Photoelectric Information Engineering<br>Changchun University of Science and Technology, China |

## Research Interests

Evolutionary Computation and Optimization
Automated Algorithm Design
Operations Research

## Papers

### *Preprint*

1. **Zhao Q**, Yan B, Shi Y*. AutoOpt: A methodological framework of automatically designing metaheuristics for optimization problems. arXiv Preprint. https://arxiv.org/abs/2204.00998
2. Yan B, **Zhao Q**, Zhang J*, Zhang J A, Yao X. Fitness landscape analysis and niching genetic algorithm for hybrid beamforming in RIS-aided communications. Submitted to *Applied Soft Computing* for peer review. https://arxiv.org/abs/2109.09054

### *Refereed Journal Articles*

3. Yan B, **Zhao Q**, Zhang J*, Zhang J A, Yao X. Gridless evolutionary approach for line spectral estimation with unknown model order. *IEEE Transactions on Cybernetics*, 2022, accepted. (SCI, IF=11.448)
4. **Zhao Q**, Yan B, Yang J, Shi Y*. Evolutionary robust clustering over time for temporal data[J]. *IEEE Transactions on Cybernetics*, 2022, early access, DOI: 10.1109/TCYB.2022.3167711. (SCI, IF=11.448)
5. Yan B, **Zhao Q**, Zhang J*, Zhang J A, Yao X. Bilevel evolutionary approach for off-grid

direction-of-arrival estimation[J]. A*pplied Soft Computing*, 2021, 113: 107954. (SCI, IF=6.725)

6. **Zhao Q**, Yan B, Shi Y*, Middendorf M. Evolutionary dynamic multi-objective optimization via learning from historical search process[J]. *IEEE Transactions on Cybernetics*, 2021, early access, DOI: 10.1109/TCYB.2021.3059252. (SCI, IF=11.448)
7. Yan B, **Zhao Q***, Zhang J A, Wang Z. Multi-objective sparse reconstruction with transfer learning and localized regularization[J]. *IEEE Access*, 2020, 8: 184920-184933. (SCI, IF=3.367)
8. Liu C, Zheng Y*, **Zhao Q**, Wang C. Financial stability and real estate price fluctuation in China[J]. *Physica A: Statistical Mechanics and its Applications*, 2020, 540: 122980. (SCI, IF=3.263)
9. Liu C, **Zhao Q***, Yan B, Elsayed S, Ray T, Sarker R. Adaptive sorting-based evolutionary algorithm for many-objective optimization[J]. *IEEE Transactions on Evolutionary Computation*, 2019, 23(2): 247-257. (SCI, IF=11.554)
10. Liu C, **Zhao Q***, Yan B, Elsayed S, Sarker R. Transfer learning-assisted multi-objective evolutionary clustering framework with decomposition for high-dimensional data[J]. *Information Sciences*, 2019, 505: 440-456. (SCI, IF=6.795)
11. Liu C, Li Y*, **Zhao Q**, Liu C, Reference vector-based multi-objective clustering for high-dimensional data[J]. *Applied Soft Computing*, 2019, 78: 614-629. (SCI, IF=6.725)
12. Liu C, Xie J*, **Zhao Q**, Liu C. Novel evolutionary multi-objective soft subspace clustering algorithm for credit risk assessment[J]. *Expert Systems with Applications*, 2019(138): 112827. (SCI, IF=6.954)
13. Yan B*, **Zhao Q**, Wang Z, Zhang J A. Adaptive decomposition-based evolutionary approach for multiobjective sparse reconstruction[J]. *Information Sciences*, 2018, 462: 141-159. (SCI, IF=6.795)
14. Liu C, **Zhao Q***, Yan B, Gao Y. A new hypervolume-based differential evolution algorithm for many-objective optimization[J]. *RAIRO-Operations Research*, 2017, 51(4): 1301-1315. (SCI, IF=1.393)
15. Yan B, **Zhao Q**, Wang Z*, Zhao X. A hybrid evolutionary algorithm for multiobjective sparse reconstruction[J]. *Signal, Image and Video Processing*, 2017, 11(6): 993-1000. (SCI, IF=2.157)

## *Conference Proceedings*

16. Feng M, **Zhao Q**, Zhang L, Shi Y*, He S. Preserving coupled nodes in population-based CNP solvers by clustering-elitism search [C]// 2021 IEEE Symposium Series on Computational Intelligence. IEEE, 2021.
17. Shao C, **Zhao Q**, Shi Y*, Jiang J. Generalized test suite for continuous dynamic multi-objective optimization [C]//International Conference on Evolutionary Multi-Criterion Optimization. Springer International Publishing, 2021: 205-217.
18. Liu M, Shen Y, **Zhao Q**, Shi Y*. A hybrid BSO-ACS algorithm for vehicle routing problem with time windows on road networks[C]//IEEE Congress on Evolutionary Computation. IEEE, 2020.
19. Yan B*, **Zhao Q**, Zhang J A, Wang Z. Convergence acceleration for multiobjective sparse reconstruction via knowledge transfer[C]//International Conference on Evolutionary Multi-Criterion Optimization. Springer, Cham, 2019: 475-487.

20. Liu C, **Zhao Q***, Yan B, Elsayed S, Sarker R. An improved multi-objective evolutionary approach for clustering high-dimensional data[C]//2018 IEEE/ACM 5th International Conference on Big Data Computing Applications and Technologies. IEEE, 2018: 184-190.

## Patents

1. **Qi Zhao**, Yuhui Shi. Search-based techniques for automated problem modelling and solver design. China Patent [P]. 202111119999.8. 2021-09-24.
2. **Qi Zhao**, Yuhui Shi. Search-based techniques for automated evolutionary algorithm design. China Patent [P]. 202110594617.0. 2021-05-29.

## Grants

1. Evolutionary Clustering for Individual Credit Lifecycle Risk Evaluation. Guangdong Basic and Applied Basic Research Foundation, No. 2021A1515110024, PI, ¥100K, 2021-2024.

## Academic Activities

### *Professional Memberships*

Member of the Institute of Electrical and Electronics Engineers (IEEE)
Member of the IEEE Computational Intelligence Society

### *Program Committee Membership*

1. EMO 2021: PC Member, 11th International Conference Series on Evolutionary Multi-Criterion Optimization, Shenzhen, China.
2. SSCI 2019: PC Member, 2019 IEEE Symposium Series on Computational Intelligence, Xiamen, China.

### *Reviewer of Journals*

IEEE Transactions on Evolutionary Computation
IEEE Transactions on Cybernetics
Information Sciences
Memetic Computing
IEEE Access
International Journal of Intelligent Systems
International Journal of Systems Science
Mathematics
Current Medical Imaging

## Teaching Experiences

2022 Undergraduate Innovative Group Project, Southern University of Science and Technology
2021 Undergraduate Innovative Group Project, Southern University of Science and Technology

## Awards

2020 Outstanding Prize of Scientific and Technological Innovation for Postgraduate

Students, Beijing University of Technology
2019 Excellent Graduates of Beijing City, China
2019 Excellent Graduates of Beijing University of Technology
2018 National Scholarship of China for Postgraduate Students
2017 Chinese Government Scholarship for Joint PhD Student Abroad

## References

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