Peng Yang

Personal Information

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Research Interests

Evolutionary Policy Optimization, Interactive Evolutionary Computation, Distributed Evolutionary Computation.

Education

University of Science and Technology of China, Hefei, China

Ph.D., Computer Science, 09/2012 - 06/2017

Supervisors: Prof. Xin Yao and Prof. Ke Tang

B.Eng., Computer Science, 09/2008 - 06/2012

Research Experience

Research Assistant Professor — Feb. 2018 - present
Department of Computer Science and Engineering,
Southern University of Science and Technology, China

Senior Engineer — July 2017 - Jan. 2018
IT Algorithm Department,
Huawei Technologies CO., LTD., China

Visiting Student — Oct 04th 2015 - Oct 24th 2015
National Institute of Informatics, Japan
Host supervisor: Prof. Helmut Prendinger
Became an alumnus of Sakura Science Plan launched by JST(Japan Science Technology Agency).

Visiting Student — July 2014 - Jan 2015
The Centre of Excellence for Research in Computational Intelligence and Applications (CERCIA),
University of Birmingham, U.K.
Host supervisor: Prof. Xin Yao

Visiting Student — Nov. 2013 - May 2014
The Intelligent Systems Group,
University of Basque Country, Spain
Host Supervisor: Prof. Jose A. Lozano

Awards

- Outstanding Doctoral Dissertation of CAAI (Nomination Award) 2018
- Special Prize of Presidential Scholarship of Chinese Academy of Sciences 2017
- Excellent Graduate Student of Anhui Province 2017
- Excellent Graduate Student of University of Science and Technology of China 2017
- Guorui Scholarship 2016
- IEEE Computational Intelligence Society Outstanding Student Paper Travel Grants 2016
- Microsoft Research Asia Fellowship (Nomination Award) 2015
- USTC-Institute of Advanced Manufacturing Technology Scholarship 2015
- IEEE Computational Intelligence Society Graduate Student Research Grants 2015
- National Scholarship for Graduate Students 2014

Referred Journal Publications

1. Minshi Chen, Jianxun Chen, **Peng Yang**, Shengcai Liu, and Ke Tang. A heuristic repair method for dial-a-ride problem in intracity logistic based on neighborhood shrinking. *Multimedia Tools and Applications*, 2020, in press.

2. Dongbin Jiao, **Peng Yang**, Liqun Fu, Liangjun Ke, and Ke Tang. Optimal Energy-Delay Scheduling for Energy Harvesting WSNs with Interference Channel via Negatively Correlated Search. *IEEE Internet of Things Journal*, Vol. 7, Issue 3, pp. 1690-1703, 2020.

3. **Peng Yang**, Ke Tang and Xin Yao. A Parallel Divide-and-Conquer based Evolutionary Algorithm for Large-scale Optimization. *IEEE Access*, vol. 7, pp. 163105-163118, 2019.

4. **Peng Yang**, Ke Tang and Xin Yao. Turning High-dimensional Optimization into Computationally Expensive Optimization. *IEEE Transactions on Evolutionary Computation*, Vol. 22, Issue 1, pp. 143-156, 2018.

5. Jinhong Zhong, **Peng Yang**, Ke Tang. A Quality-Sensitive Method for Learning from Crowds. *IEEE Transactions on Knowledge and Data Engineering*, Vol. 29, Issue 12, pp. 2643-2654, 2017.

6. Ke Tang*, **Peng Yang*** and Xin Yao*. Negatively Correlated Search. *IEEE Journal on Selected Areas in Communications*, Vol. 34, Issue 3, pp. 1-9, March 2016.

7. **Peng Yang**, Ke Tang, Jose A. Lozano and Xianbin Cao. Path Planning for Single Unmanned Aerial Vehicle by Separately Evolving Waypoints. *IEEE Transactions on Robotics*, Vol. 31, Issue 5, pp. 1130-1146, 2015.

8. **Peng Yang**, Ke Tang and Xiaofen Lu. Improving Estimation of Distribution Algorithm on Multimodal Problems by Detecting Promising Areas. *IEEE Transactions on Cybernetics*, Vol. 45, Issue 8, pp. 1438-1449, 2015.

Referred Conference Publications

1. Wenjing Hong, **Peng Yang**, Yiwen Wang and Ke Tang. Multi-Objective Optimization-Based Latency-Aware Layer-Wise Magnitude-Based Pruning for DNN Compression. In: *Proceedings of the 2020 Conference of Parallel Problem Solving from Nature (PPSN 2020)*, in press.

2. Yunwen Lei, **Peng Yang**, and Ke Tang. Optimal Stochastic and Online Learning with Individual Iterates. In: *Proceedings of Conference and Workshop on Neural Information Processing Systems (NeurIPS 2019)*, Vancouver, Canada; 12/2019.

3. Er Zhuo, Yunjie Deng, Zhewei Su, **Peng Yang**, Bo Yuan, and Xin Yao. An Experimental Study of Large-scale Capacitated Vehicle Routing Problems. In: *Proceedings of the 2019 IEEE Congress on Evolutionary Computation (IEEE CEC 2019)*, Wellington, New Zealand; 06/2019.

4. Dongbing Jiao, **Peng Yang**, Liqun Fu, Liangjun Ke, and Ke Tang. Optimal Energy-Delay Scheduling for Energy Harvesting WSNs via Negatively Correlated Search. In: *Proceedings of the 2019 International Conference on Communications (ICC 2019)*, Shanghai, China; 07/2019.

5. Dongjun Qian, **Peng Yang*** and Ke Tang. A Fast Heuristic Path Computation Algorithm for Batch Bandwidth Constrained Routing Problem in SDN. In: *Proceedings of the 15th Pacific Rim International Conference on Artificial Intelligence (PRICAI 2018)*, pp. 490-502, Nanjing, China; 08/2018, Springer.

6. **Peng Yang**, Guanzhou Lu, Ke Tang and Xin Yao. A Multi-Modal Optimization Approach to Single Path Planning for Unmanned Aerial Vehicle. In: *Proceedings of the 2016 IEEE Congress on Evolutionary Computation (CEC 2016)*, pp.1735-1742, Vancouver, Canada; 07/2016, IEEE.

7. **Peng Yang**, Ke Tang, Lingxi Li and Kai Qin. Evolutionary Robust Optimization with Multiple Solutions. In: *Proceedings of The 18th Asia Pacific Symposium on Intelligent and Evolutionary Systems (IES 2015)*, Nov., 2015, Singapore; pp.611-625, Springer.

8. Wenjing Hong, Guanzhou Lu, **Peng Yang**, Yong Wang and Ke Tang. A New Evolutionary Multiobjective Algorithm for Convex Hull Maximization. In: *Proceedings of the 2015 IEEE Congress on Evolutionary Computation (CEC 2015)*, pp.931-938, Sendai, Japan; 05/2015, IEEE.

9. **Peng Yang**, Ke Tang and Jose A. Lozano. Estimation of Distribution Algorithms based Unmanned Aerial Vehicle Path Planner Using a New Coordinate System. In: *Proceedings of the 2014 IEEE Congress on Evolutionary Computation (CEC 2014)*, pp.1469-1476, Beijing, China; 07/2014, IEEE.

Professional Services

Special Session Organizer

- Co-chair of Special Session on "Evolutionary Optimization: Foundations and Its applications to Intelligent Data Analytics" at ICIC'18.

Invited Talks

- "Large-scale Distributed Evolutionary Computational Engine", Huawei Technologies CO., LTD., Shenzhen, China; 09/2019.
- "Large-scale Distributed Evolutionary Computation", the 6th Chinese Workshop on Evolutionary Computation and Learning (ECOLE'2019), Xiangtan, China; 05/2019.
- "Turning High-dimensional Optimization into Computationally Expensive Optimization", the 15th Pacific Rim International Conference on Artificial Intelligence (PRICAI'2018), Nanjing, China; 08/2018.

Journal Reviewer

- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Industrial Electronics
- IEEE Transactions on Emerging Topics in Computational Intelligence
- Information Sciences
- IEEE Computational Intelligence Magazine
- IEEE Access
- Applied Soft Computing
- Frontiers of Computer Science
- Computers & Operations Research
- Memetic Computing
- Natural Computing
- SCIENCE CHINA Information Sciences
- Swarm and Evolutionary Computation
- Journal of Systemics, Cybernetics, and Informatics

Conference PC member

- The International Conference on Machine Learning (ICML'20)
- The Association for the Advancement of Artificial Intelligence (AAAI'19, AAAI'20)
- The International Joint Conferences on Artificial Intelligence (IJCAI'18, IJCAI'19, IJCAI'20)
- The IEEE Congress on Evolutionary Computation (IEEE CEC'19, CEC'20)
- The International Conference on Simulated Evolution and Learning (SEAL'17)
- The IEEE Symposium Series on Computational Intelligence (SSCI'16)
- The World Multi-Conference on Systemics, Cybernetics And Informatics (WMSCI'15, WMSCI'18)