Yuan Sun

Contact Information	Room 14.08.7B, RMIT University, Melbourne, VIC 3000	Tel: (+61) 3 9925-3959 yuan.sun@rmit.edu.au

Research Interests

Artificial intelligence, machine learning, evolutionary computation, large scale optimization, exploratory landscape analysis, algorithm selection, feature selection.

Education

University of Melbourne, Parkville, VIC, AU

Ph.D., Artificial Intelligence and Image Processing, October 2013 – April 2018

- Thesis Topic: *On the Analysis of Interaction between Decision Variables*
- Supervisors: Associate Professor Michael Kirley and Professor Saman Halgamuge

Peking University, Beijing, CHINA

B.S., Theoretical and Applied Mechanics, September 2009 – July 2013

- Thesis Topic: *On the Comparison of Three Industrial Alarm Systems*
- Supervisor: Professor Jiandong Wang

Refereed Journal Publications

1. Jayasundara, D., Herath, D., Senanayake, D., Saeed, I., Yang, C.Y., **Sun, Y.**, Chang, B.C., Tang, S.L. and Halgamuge, S. "ENVirT: Inference of Ecological Characteristics of Viruses from Metagenomic Data." *BMC Bioinformatics*, 19(13): 377, 2019. Journal impact factor: 2.2.
2. **Sun, Y.**, Kirley, M., Halgamuge, S. "A Recursive Decomposition Method for Large Scale Continuous Optimization." *IEEE Transactions on Evolutionary Computation*, 22(5), 647-661, 2018. Journal impact factor: 8.1.
3. **Sun, Y.**, Kirley, M., Halgamuge, S. "Quantifying Variable Interactions in Continuous Optimization Problems." *IEEE Transactions on Evolutionary Computation*, 21(2): 249-264, 2017. Journal impact factor: 8.1.
4. Muñoz, M A., **Sun, Y.**, Kirley, M., Halgamuge, S. "Algorithm Selection for Black-box Continuous Optimization Problems: A Survey on Methods and Challenges." *Information Sciences*, 317: 224-245, 2015. Journal impact factor: 4.3.

Conference Publications

1. Wang, W., **Sun, Y.**, Halgamuge, S. "Improving MMD-GAN Training with Repulsive Loss Function". *International Conference on Learning Representations*. Accepted 2019.
2. **Sun, Y.**, Omidvar, M. N., Kirley, M., Li, X. "Adaptive Threshold Parameter Estimation with Recursive Differential Grouping for Problem Decomposition." *Proceedings of Genetic and Evolutionary Computation Conference*. ACM, 889-896, 2018.
3. **Sun, Y.**, Kirley, M., Li, X. "Cooperative Co-evolution with Online Optimizer Selection for Large-Scale Optimization." *Proceedings of Genetic and Evolutionary Computation Conference*. ACM, 1079-1086, 2018.
4. **Sun, Y.**, Kirley, M., Halgamuge, S. "A Memetic Cooperative Co-evolution Model for Large Scale Optimization." *Australasian Conference on Artificial Life and Computational Intelligence*, Springer, Cham, 291-300, 2017.
5. **Sun, Y.**, Kirley, M., Halgamuge, S. "Extended Differential Grouping for Large Scale Global Optimization with Direct and Indirect Variable Interactions." *Proceedings of Genetic and Evolutionary Computation Conference*. ACM, 313-320, 2015.

6. **Sun, Y.**, Kirley, M., Halgamuge, S. "On the Selection of Decomposition Methods for Large Scale Fully Non-separable Problems." *Proceedings of the Companion Publication of the 2015 Annual Conference on Genetic and Evolutionary Computation.* ACM, 1213-1216, 2015.

7. **Sun, Y.**, Kirley, M., Halgamuge, S., Muñoz, M A. "On the Selection of Fitness Landscape Analysis Metrics for Continuous Optimization Problems." *7th International Conference on Information and Automation for Sustainability. IEEE*, 1-6, 2014.

Research Experience

Postdoctoral Researcher — July 2018 - Present
School of Computer Science and Software Engineering, RMIT University.

Research Assistant — September 2017 – June 2018
School of Computing and Information Systems, University of Melbourne.

Teaching Experience

Co-Lecturer — Semester 1, 2019
Evolutionary Computing,
School of Computer Science and Software Engineering,
RMIT University

Tutor — February 2016 – November 2017
COMP90038 Algorithm and Complexity,
School of Computing and Information Systems,
University of Melbourne

Head Tutor — February 2017 – November 2017
COMP90038 Algorithm and Complexity,
School of Computing and Information Systems,
University of Melbourne

Awards

- Melbourne Abroad Travelling Scholarship — July 2015
- Student Grant from GECCO — July 2015
- Melbourne International Engagement Awards — October 2013
- Melbourne International Fee Remission — October 2013

Programming Skills

C, C++, Python, Matlab