Yi Mei

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EXPERIENCE

ARC Discovery Research Fellow **2012—present**
RMIT University; Melbourne, Australia

Conducted research on solving large scale routing, scheduling, multi-modal journey planning and tourist trip planning problems with computational intelligence.

Detailed achievements:

- Designed novel and effective algorithms to divide-and-conquer large scale routing and scheduling problems;
- Prolific publications (3 journal papers (2 top journals) and 8 high-level conference proceedings);
- Applied for the highly prestigious Discovery Early Career Research Award 2014 and 2015, and was ranked top 10% among the unsuccessful (20% among all) applications in both rounds;
- Received 2nd price in an international conference competition (Optimisation of Problems with Multiple Interdependent Components 2014);
- Frequent public presentations in academic conferences and seminars to audience with size from 20 to 50;
- Official co-supervisor of two PhD candidates;
- Served as Committee of IEEE CIS Task Force on Evolutionary Computation for Feature Selection and Construction
- Served as Committee of IEEE ECTC Task Force on Evolutionary Scheduling and Combinatorial Optimization
- Served as programme committee of the International Conference on Simulated Evolution And Learning (SEAL 2014);
- Served as technical committee of Special Session on Large Scale Global Optimization, IEEE Congress on Evolutionary Computation, 2013 and 2014;
- Served as co-chair of the 2013 IEEE Symposium on Computational Intelligence in Production and Logistics Systems, IEEE Symposium Series on Computational Intelligence.
- Solely developed a journey planner Java Web Project for Adelaide public transport network (Available on https://github.com/meiyi1986/JourneyPlanner);

- Solely developed the core algorithm of a region ranking system. It recommends residential areas to house buyers taking a wide range of factors into account, such as house price, convenience, population and public transport to the work place.
- Abundant program development with Java, C, C++, R, Matlab, Javascript and SQL database (They are freely available on my homepage http://goanna.cs.rmit.edu.au/~e04499/Research.html for details) and GitHub repository (https://github.com/meiyi1986/JourneyPlanner for details).

Provost's Research Associate **2010-2012**
Chinese University of Hong Kong; Hong Kong

Built statistical model for analysing the individual and collective behaviours of stock prices, and designed algorithms for generalizable portfolio selection.

Detailed achievements:

- Developed Excel Macro scripts for automatically collecting the huge stock price data online;
- Developed multivariate linear and non-linear regression, conditional distribution and correlation, outlier detection, and SVM classifier with Matlab to analyse the conditional temporal behaviours of stock prices and the relationship between them;
- Published one conference paper.

Miscellaneous

Lead Fundraiser **2013, 2014, 2005**
Red Shield Appeal of the Salvation Army; Melbourne, Australia

Group leader, in charge of registration, arranging logistics and contacting the target Salvation Army church.

EDUCATION

Ph.D. of Computer Science **2007-2010**
University of Science and Technology of China
Chinese Academy Of Sciences Dean's Award (Top 200 postgraduates all over China)

M.Sc. of Computer Science **2005-2007**
University of Science and Technology of China

B.Sc. of Computer Science **2001-2005**
University of Science and Technology of China
The Special Class for the Gifted Young (Top 50 high school students no older than 15 all over China)

GRANTS AND AWARDS

- 2014 RMIT Near-miss grant ($25,000 awarded for being ranked top 10% among the unsuccessful DECRA applications)
- 2nd Prize, Competition at 2014 IEEE World Congress on Computational Intelligence: Optimisation of Problems with Multiple Interdependent Components (as sole algorithm designer and programmer)
- 2010 Chinese Academy Of Sciences Dean's Award (Top 200 postgraduates all over China)
- 2009 IEEE CIS Walter Karplus Summer Research Grant
- 2009 IEEE CIS Student Travel Grant for IEEE Congress on Evolutionary Computation

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PROFESSIONAL SKILLS

Fundamental
Algorithm Design, Complexity Analysis, Statistics, Numerical Analysis, Multivariate Regression

Programming
Java, C++, R, C, Matlab, SQL

Scripting
Javascript, JSP, HTML5, JSON

Presentation
LaTeX, Beamer, Microsoft Office

LANGUAGES

English — Fluent
Mandarin — Mother tongue
Cantonese — Intermediate

PUBLICATIONS

Journals

1. **Yi Mei**, Xiaodong Li, and Xin Yao, “On Investigation of Interdependence Between Sub-problems of the Travelling Thief Problem”, *Soft Computing*, DOI: 10.1007/s00500-014-1487-2, 2014.

2. **Yi Mei**, Xiaodong Li, and Xin Yao, "Cooperative Co-evolution with Route Distance Grouping for Large-Scale Capacitated Arc Routing Problems," *IEEE Transactions on Evolutionary Computation*, vol. 18, no. 3, pp. 435–449, 2014.
   (Top **0.75% (9/1193**) in Software, **1.1% (6/548)** in Computational Theory and Mathematics; Impact Factor: **5.545**)
3. Mohammad Nabi Omidvar, Xiaodong Li, **Yi Mei**, and Xin Yao, "Cooperative Co-evolution with Differential Grouping for Large Scale Optimization,'" *IEEE Transactions on Evolutionary Computation*, vol. 18, no. 3, pp. 378–393, 2014.
   (Top **0.75% (9/1193**) in Software, **1.1% (6/548)** in Computational Theory and Mathematics; Impact Factor: **5.545**)
4. **Yi Mei**, Ke Tang, and Xin Yao, "A Memetic Algorithm for Periodic Capacitated Arc Routing Problem," *IEEE Transactions on Systems, Man, and Cybernetics, Part B*, vol. 41, no. 6, pp. 1654–1667, 2011.
   (Top **3.5% (54/1561)** in Electrical and Electronic Engineering, **2.6% (16/621)** in Control and System Engineering; Impact Factor: **3.236**)
5. **Yi Mei**, Ke Tang, and Xin Yao, "Decomposition-based Memetic Algorithm for Multi-Objective Capacitated Arc Routing Problems," *IEEE Transactions on Evolutionary Computation*, vol. 15, no. 2, pp. 151–165, 2011.
   (Top **0.75% (9/1193**) in Software, **1.1% (6/548)** in Computational Theory and Mathematics; Impact Factor: **5.545**)
6. Ke Tang, **Yi Mei**, and Xin Yao, "Memetic Algorithm with Extended Neighborhood Search for Capacitated Arc Routing Problems," *IEEE Transactions on Evolutionary Computation*, vol. 13, no. 5, pp. 1151–1166, 2009.
   (Top **0.75% (9/1193**) in Software, **1.1% (6/548)** in Computational Theory and Mathematics; Impact Factor: **5.545**)
7. **Yi Mei**, Ke Tang and Xin Yao, "A Global Repair Operator for Capacitated Arc Routing Problem," *IEEE Transactions on Systems, Man, and Cybernetics, Part B*, vol. 39, no. 3, pp. 723–734, 2009.
   (Top **3.5% (54/1561)** in Electrical and Electronic Engineering, **2.6% (16/621)** in Control and System Engineering; Impact Factor: **3.236**)

- *The journal ranking is from the latest SCI Journal Ranking.*
- *The impact factor is from the latest Thomson Reuters.*

Conference Proceedings

1. **Yi Mei**, Xiaodong Li and Xin Yao, "Heuristic Evolution with Genetic Programming for Traveling Thief Problem," *2015 IEEE Congress on Evolutionary Computation*, Sendai, Japan, 25–28 May 2015.
2. Jing Xie, **Yi Mei**, Andreas Ernst, Xiaodong Li and Andy Song, "A Restricted Neighbourhood Tabu Search for Storage Location Assignment Problem," *2015 IEEE Congress on Evolutionary Computation*, Sendai, Japan, 25-28 May 2015.
3. **Yi Mei**, Xiaodong Li and Xin Yao, "Improving Efficiency of Heuristics for the Large Scale Traveling Thief Problem," *2014 International Conference on*

Simulated Evolution And Learning, Lecture Notes in Computer Science Volume 8886, pp. 631–643, 2014.

4. Jing Xie, **Yi Mei**, Andreas Ernst, Xiaodong Li and Andy Song, "Scaling Up Solutions to Storage Location Assignment Problems by Genetic Programming," *2014 International Conference on Simulated Evolution And Learning*, Lecture Notes in Computer Science Volume 8886, pp. 691–702, 2014.
5. **Yi Mei**, Xiaodong Li and Xin Yao, "Variable Neighborhood Decomposition for Large Scale Capacitated Arc Routing Problem," *Proceedings of the 2014 IEEE Congress on Evolutionary Computation*, pp. 1313–1320, 2014.
6. Mohammad Nabi Omidvar, **Yi Mei** and Xiaodong Li, "Effective Decomposition of Large-Scale Separable Continuous Functions for Cooperative Co-evolutionary Algorithms," *Proceedings of the 2014 IEEE Congress on Evolutionary Computation*, pp. 1305–1312, 2014.
7. Jing Xie, **Yi Mei**, Andreas Ernst, Xiaodong Li and Andy Song, "A Genetic Programming-based Hyper-heuristic Approach for Storage Location Assignment Problem," *Proceedings of the 2014 IEEE Congress on Evolutionary Computation*, pp. 3000–3007, 2014.
8. **Yi Mei**, Xiaodong Li and Xin Yao, "Decomposing Large-Scale Capacitated Arc Routing Problems using a Random Route Grouping Method," *Proceedings of the 2013 IEEE Congress on Evolutionary Computation*, pp. 1013–1020, 2013.
9. Elain Wah, **Yi Mei**, and Benjamin Wah, "Portfolio Optimization through Data Conditioning and Aggregation," *Proceedings of the 2011 IEEE International Conference on Tools with Artificial Intelligence*, pp. 253–260, 2011.
10. **Yi Mei**, Ke Tang and Xin Yao, "Capacitated Arc Routing Problem in Uncertain Environments," *Proceedings of the 2010 IEEE Congress on Evolutionary Computation*, Barcelona, Spain, 18--23 July 2010.
11. Haobo Fu, **Yi Mei**, Ke Tang and Yanbo Zhu, "Memetic Algorithm with Heuristic Candidate List Strategy for Capacitated Arc Routing Problem," *Proceedings of the 2010 IEEE Congress on Evolutionary Computation*, Barcelona, Spain, 18--23 July 2010.
12. **Yi Mei**, Ke Tang and Xin Yao, "Improved Memetic Algorithm for Capacitated Arc Routing Problem," *Proceedings of the 2009 IEEE Congress on Evolutionary Computation*, pp. 1699–1706, 2009.

Book Chapters

1. **Yi Mei**, Ke Tang and Xin Yao, "Evolutionary Computation for Dynamic Capacitated Arc Routing Problem," *Evolutionary Computation for Dynamic Optimization Problems*, Shengxiang Yang and Xin Yao (Eds.), Studies in Computational Intelligence Volume 490, pp. 377–401, 2013.

Patents

1. Chinese Patent, **Search method for path planning**, Publication Number 101650805A, 2010.

PROFESSIONAL ACTIVITIES

- Co-chair of Special Session on Evolutionary Scheduling and Combinatorial Optimization, 2016 IEEE World Congress on Computational Intelligence
- Committee of IEEE CIS Task Force on Evolutionary Computation for Feature Selection and Construction
- Committee of IEEE ECTC Task Force on Evolutionary Scheduling and Combinatorial Optimization
- Programme Committee of the Tenth International Conference on Simulated Evolution And Learning (SEAL 2014)
- Technical Committee of Special Session on Large Scale Global Optimization, 2014 IEEE World Congress on Computational Intelligence
- Technical Committee of Special Session on Large Scale Global Optimization, 2013 IEEE Congress on Evolutionary Computation
- Co-chair of the 2013 IEEE Symposium on Computational Intelligence in Production and Logistics Systems, IEEE Symposium Series on Computational Intelligence
- Reviewer of
  - IEEE Transactions on Evolutionary Computation
  - IEEE Transactions on Cybernetics
  - IEEE Transactions on System, Man and Cybernetics, Part B
  - Information Sciences
  - Transportation Research Part C
  - Applied Soft Computing
  - Soft Computing
  - Memetic Computing
  - Journal of Computer Science and Technology
  - Natural Computing
  - EURASIP Journal on Wireless Communications and Networking