Ying Bi

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Education

Victoria University of Wellington **Wellington, New Zealand**
PhD in Computer Science *2017-Present*
Supervisors: Prof. Mengjie Zhang and A/Prof. Bing Xue

Shenzhen University **Shenzhen, China**
M.Sc. in Management Science and Engineering *2013 - 2016*
Supervisor: Prof. Ben Niu

Wuhan Polytechnic University **Wuhan, China**
B.S. degree in Management *2009 - 2013*

Work Experience

- Postdoctoral Research Fellow, Victoria University of Wellington, July 2020-Present (This job is started from July 2020 after I submitted my PhD thesis)
- Tutor for COMP132 (Programming for the Natural and Social Sciences), Victoria University of Wellington. July-November 2020
- Head tutor for COMP307 (Introduction to Artificial Intelligence), Victoria University of Wellington. March-July 2020
- Tutor for COMP309 (Machine Learning Tools and Techniques), Victoria University of Wellington. July-November 2019
- Tutor for COMP307 (Introduction to Artificial Intelligence), Victoria University of Wellington. March-July 2019
- Tutor for COMP132 (Programming for the Natural and Social Sciences), Victoria University of Wellington. July-November 2018
- Tutor for COMP307 (Introduction to Artificial Intelligence), Victoria University of Wellington. March-July 2018
- Research Assistant, Shenzhen University. 2015-2016

Research Interests

- Evolutionary computer vision, particularly image classification and analysis
- Evolutionary computation, particularly genetic programming, particle swarm optimisation, surrogate-assisted evolutionary algorithms
- Evolutionary machine learning, ensemble learning and transfer learning
- Evolutionary multi-objective optimisation
- Feature extraction, feature construction, and feature learning

Grants

- 2015-2016: Distributed Production Scheduling Based on Bacterial Foraging Optimization, Shenzhen University Graduate Student Innovation Development Fund Project (PI)

Awards

- GECCO Student Travel Grant ($700 USD), Genetic and Evolutionary Computation Conference (GECCO), ARC/ERA/CORE Tier A conference, 2019
- PGSA Academic Conference Grant ($ 500 NZD), Victoria University of Wellington, 2019
- Faculty Strategic Research Grant from Victoria University of Wellington ($3000 NZD), 2019
- IEEE Computational Intelligence Society Student Travel Award ($800 USD), 2018
- Faculty Strategic Research Grant from Victoria University of Wellington ($3000 NZD), 2018
- Oversea PhD Scholarship, China Scholarship Council, 2016-2020
- National Scholarship for Postgraduate Students, Oct 2015 (It is currently the highest-level scholarship for the master students in China)
- National Scholarship for Postgraduate Students, Dec 2014 (It is currently the highest-level scholarship for the master students in China)
- Excellent Graduate of Shenzhen University, Jun 2016
- Excellent Graduate of Guangdong Province, Jun 2016
- Excellent Graduate of Wuhan Polytechnic University, Jun 2013
- Outstanding Youth Volunteers of Wuhan Polytechnic University, May 2012
- Outstanding Students of Wuhan Polytechnic University, Nov 2011
- Second Prize Scholarship for Academic Excellence, Wuhan Polytechnic University, Dec 2011
- First Prize Scholarship for Academic Excellence, Wuhan Polytechnic University, Dec 2010
- Outstanding Students of Wuhan Polytechnic University, Oct 2010

Professional Activities and International Engagement

—**Professional Membership**

- Local organizing committee member of AI2018 and CEC2019
- Member of IEEE 2016 - Present

—**Organised Special Sessions and Special Issues**

- Co-Chair: Poster session in 2019 IEEE Congress on Evolutionary Computation (CEC2019)

—**Program Committee Member for International Conference**

- The 35th Conference on Image and Vision Computing New Zealand (IVCNZ), 2020
- The Genetic and Evolutionary Computation Conference (GECCO), 2019, 2020
- IEEE Symposium Series on Computational Intelligence (SSCI), 2018, 2019
- The 31th Australasian Joint Conference on Artificial Intelligence (AI), 2018
- The 10th International Conference on Advanced Computational Intelligence (ICACI), 2018

—**Peer Reviewer for International Journal**

- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Cybernetics
- IEEE Computational Intelligence Magazine
- IEEE Transactions on Emerging Topics in Computational Intelligence
- IEEE Access
- Neurocomputing

- Natural Computing
- Soft Computing
- Applied Soft Computing
- Science China Information Sciences
- Swarm and Evolutionary Computation
- Engineering Applications of Artificial Intelligence
- Complex & Intelligent Systems
- International Journal of Computer Information Systems and Industrial Management Applications

—**Reviewer for International Conference**

- IEEE Congress on Evolutionary Computation (CEC), 2019, 2020
- The 15th Pacific Rim International Conference on Artificial Intelligence (PRICAI), 2018
- The Third International Conference on Data Mining and Big Data (DMBD), 2018

Publications

1. Ying Bi, Bing Xue, and Mengjie Zhang. Genetic Programming with Image-Related Operators and A Flexible Program Structure for Feature Learning in Image Classification, IEEE Transactions on Evolutionary Computation, 1-15pp, 10 June 2020. DOI: 10.1109/TEVC.2020.3002229 (**ARC/CORE Tier A*, Q1, SCI, EI and DBLP indexed, impact factor =11.169**)
2. Ying Bi, Bing Xue, and Mengjie Zhang. Genetic Programming with A New Representation to Automatically Learn Features and Evolve Ensembles for Image Classification. IEEE Transactions on Cybernetics, pp. 1-15pp, 2020. DOI: 10.1109/TCYB.2020.2964566. (**ARC/CORE Tier A, Q1, SCI, EI and DBLP indexed, impact factor =11.079**)
3. Ying Bi, Bing Xue, and Mengjie Zhang. An Effective Feature Learning Approach Using Genetic Programming with Image Descriptors for Image Classification. IEEE Computational Intelligence Magazine, vol. 15 , no. 2, pp. 65-77, 2020. (**Q1, SCI, EI and DBLP indexed, impact factor =9.083**)
4. Harith Al-Sahaf, Ying Bi, Qi Chen, Andrew Lensen, Yi Mei, Yanan Sun, Binh Tran, Bing Xue, and Mengjie Zhang. A Survey on Evolutionary Machine Learning. Journal of the Royal Society of New Zealand. Vol. 49, No. 2. 2019. pp. 205-228. DOI:10.1080/03036758.2019.1609052. (**Q1, SCI, EI and DBLP indexed, impact factor =0.862**)
5. Ying Bi, Bing Xue, and Mengjie Zhang. A Survey on Genetic Programming to Image Analysis. Journal of Zhengzhou University (Engineering Science). Vol. 39, No. 06. 2018. pp. 3-13. (In Chinese).
6. Ying Bi, Bing Xue, Mengjie Zhang. Evolving Deep Forest with Automatic Feature Extraction for Image Classification Using Genetic Programming. Proceedings of The Sixteenth International Conference on Parallel Problem Solving from Nature (PPSN 2020), Lecture Notes in Computer Science. Vol. 12269. Springer. Leiden, The Netherlands, September 5-9, 2020. pp. 3-18. (to appear) (**ARC/CORE Tier A, EI and DBLP indexed**)
7. Ying Bi, Bing Xue, and Mengjie Zhang. An Automated Ensemble Learning Framework Using Genetic Programming for Image Classification. Proceedings of 2019 Genetic and Evolutionary Computation Conference (GECCO 2019). ACM Press. Prague, Czech Republic. 13-17 July 2019. pp. 365-373. (**ARC/CORE Tier A, EI and DBLP indexed**)
8. Ying Bi, Bing Xue, and Mengjie Zhang. Automatically Extracting Features for Face Classification Using Multi-Objective Genetic Programming. Proceedings of 2020 Genetic and Evolutionary Computation Conference Companion. ACM Press. Cancun, Mexico. July 8th-12th 2020, pp

117–118. (to appear) (**ARC/CORE Tier A, EI and DBLP indexed**)

9. Ying Bi, Bing Xue, and Mengjie Zhang. Genetic Programming-Based Feature Learning for Facial Expression Classification. Proceedings of IEEE Congress on Evolutionary Computation (CEC 2020). Glasgow, UK, July 19 - 24th 2020. pp 1-8. (to appear) (**ARC/ERA Tier A, EI and DBLP indexed**)
10. Ying Bi, Bing Xue, Mengjie Zhang. A Gaussian Filter-Based Feature Learning Approach Using Genetic Programming to Image Classification. Proceedings of the 31st Australasian Joint Conference on Artificial Intelligence (AI2018), Lecture Notes in Computer Science, vol. 11320. Springer. Wellington, New Zealand.11-14 December 2018. pp. 251-257. (**EI and DBLP indexed**)
11. Ying Bi, Bing Xue, Mengjie Zhang. An Automatic Feature Extraction Approach to Image Classification Using Genetic Programming. Proceeding of the 21th European Conference on Applications of Evolutionary Computation (EvoApplications 2018). Lecture Notes in Computer Science. Parma, Italy. 4-6 April 2018. pp. 421- 438. (**EI and DBLP indexed**)
12. Ying Bi, Bing Xue, and Mengjie Zhang. An Evolutionary Deep Learning Approach Using Genetic Programming with Convolution Operators for Image Classification. Proceedings of 2019 IEEE Congress on Evolutionary Computation (CEC). IEEE Press. Wellington, New Zealand. 10-13 June, 2019. pp. 3197-3204. (**ARC/ERA Tier A, EI and DBLP indexed**)
13. Ying Bi, Mengjie Zhang, and Bing Xue. Genetic Programming for Automatic Global and Local Feature Extraction to Image Classification. Proceedings of 2018 IEEE Congress on Evolutionary Computation (CEC). IEEE Press. Rio de Janeiro, Brazil. 8-13 July 2018. pp. 1-8. (**Nominated for Best Student Paper Award**). (**ARC/ERA Tier A, EI and DBLP indexed**)
14. Ying Bi, Mengjie Zhang and Bing Xue. An Automatic Region Detection and Processing Approach in Genetic Programming for Binary Image Classification. Proceedings of 2017 the 32th International Conference on Image and Vision Computing New Zealand (IVCNZ 2017). IEEE Press. Christchurch, New Zealand. 4 - 6 December 2017. pp. 1-6. (**EI and DBLP indexed**)

Submitted Paper

15. Ying Bi, Bing Xue, and Mengjie Zhang. Genetic Programming-Based Discriminative Feature Learning for Low-Quality Image Classification. Submitted to IEEE Transactions on Cybernetics. 2 Jan 2020. (**ARC/CORE Tier A, Q1, SCI, EI and DBLP indexed, impact factor =11.079**) (Passed the first round of review)
16. Ying Bi, Bing Xue, and Mengjie Zhang. Instance Selection Based Surrogate-Assisted Genetic Programming for Feature Learning in Image Classification. Submitted to IEEE Transactions on Cybernetics. 12 June 2020. (**ARC/CORE Tier A, Q1, SCI, EI and DBLP indexed, impact factor =11.079**) (Passed the first round of review)
17. Bo Peng, Shuting Wan, Ying Bi, Bing Xue, and Mengjie Zhang. Automatic Feature Extraction and Construction Using Genetic Programming for Rotating Machinery Fault Diagnosis. Submitted to IEEE Transactions on Cybernetics. 18 April 2020. (Passed the first round of review) (**ARC/CORE Tier A, Q1, SCI, EI and DBLP indexed, impact factor =11.079**) (Passed the first round of review)
18. Ying Bi, Bing Xue, and Mengjie Zhang. A Fast Genetic Programming-Based Feature Learning Approach with Knowledge Transfer and Ensemble for Image Classification. Submitted to IEEE Transactions on Evolutionary Computation. (**ARC/CORE Tier A*, Q1, SCI, EI and DBLP indexed, impact factor =11.169**)

19. Ying Bi, Bing Xue, Mengjie Zhang. Multi-Objective Genetic Programming for Feature Learning in Face Recognition. Submitted to Applied Soft Computing. 15 April 2020. (**ARC/CORE Tier C, Q1, SCI, EI and DBLP indexed, impact factor =5.472**) (Passed the first round of review)
20. Ying Bi, Bing Xue, Mengjie Zhang. Multi-Objective Genetic Programming for Image Feature Learning with a Limited Number of Training Images. Submitted to Applied Soft Computing. 15 September 2020. (**ARC/CORE Tier C, Q1, SCI, EI and DBLP indexed, impact factor =5.472**)

Supervision

- **Bo Peng (Visiting PhD student, Co-supervised with Bing Xue and Mengjie Zhang)**
  Project: Genetic Programming for Machine Fault Classification and Machine Life Prediction (December 2019-Present)
  In the project, Bo has produced one journal paper, which has been submitted to one of the top journals: IEEE Transactions on Cybernetics (passed the first round of review)
- **Yi Sian Lim (Honours, Co-supervised with Bing Xue and Mengjie Zhang)**
  Project: A Genetic Programming Approach to Image Classification (March 2019 - July 2019)

Languages

Chinese: Native

English: Excellent