

Hongzong LI

Department of Computer Science, City University of Hong Kong

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Welcome to my homepage to learn more about me: <https://hongzongli-cs.github.io/>

EDUCATION BACKGROUND

Ph.D. candidate: Computer Science

2021.01-Present

Department of Computer Science, City University of Hong Kong, Kowloon, Hong Kong.

Supervised by: Prof. WANG Jun and Prof. ZHANG Qingfu.

Bachelor of Engineering: Automation

2016.09-2020.06

College of Information Science and Engineering, Northeastern University, Shenyang, China.

Overall GPA: 3.9891/5 - Ranking within Top 5%.

Major courses: Graduation Thesis (A), Scientific Computing with MATLAB (96), Analog Electronic Circuits (93), Digital Electronic Circuits (95), Digital Signal Processing (98), Modern Optimization Algorithms (98), Microcomputer Principle and programming (92), Principle of Automatic Control (94), Modern Control Theory (96), The Computer Simulation Technology (99), Modeling and Control of Hybrid Systems (96).

HONORS & AWARDS

- Outstanding Academic Performance Award
- Postgraduate Studentship (HK\$18,270 per month)
- Institutional Research Tuition Scholarship (HK\$3,508 per month)
- Institutional Research Tuition Grant (HK\$3,508 per month)
- Outstanding Graduates of Liaoning Province in 2020
- The Special Prize of excellent students of Baosteel in 2019 (20,000 CNY)
- The Fourth most influential graduate of the College in 2020
- The First Prize of "Ti" Cup Electronic Design Competition for undergraduate students in Liaoning Province
- The Special Prize of the 7th China TRIZ Cup Undergraduate Innovation Method Competition
- The First Prize of the fourth Liaoning "TRIZ Cup" college students innovation method competition
- Northeast University (2019) National Innovation Training Program for College Students - National Excellent
- Northeast University (2019) National Innovation Training Program for College Students - my favorite innovation program for College Students
- Northeast University (2018) National Innovation Training Program for College Students - Provincial Qualification
- The Second Prize of the 17th Undergraduate Electronic Design Competition of "Jianlong iron and steel" of Northeast University in 2018
- The Third Prize of the fourth Internet plus China Northeastern University Student Competition
- First-class scholarship for outstanding students of Northeast University (2018-2019, and 2019-2020)
- Third-class scholarship for outstanding students of Northeast University (2016-2017, and 2017-2018)

TEACHING & INTERNSHIP

Sep. 2022 – Dec. 2022: Teacher in CS5486 Intelligent Systems at CityU, Hong Kong.

Jan. 2023 – Apr. 2023: Teaching assistant in CS4386 AI Game Programming at CityU, Hong Kong.

Jan. 2022 – Apr. 2022: Teaching assistant in GE2313 Global IT Case Studies at CityU, Hong Kong.

Jan. 2021 – Apr. 2021: Teaching assistant in CS1302 Introduction to Computer Programming at CityU, Hong Kong.

Aug. 2019 – Sep. 2019: AXA Internship Experience in Hong Kong.

Aug. 2019 – Sep. 2019: Volunteer at the International Voluntary Day held in Hong Kong.

ACADEMIC SERVICE

Reviewer of the following journals and conferences:

IEEE Transactions on Consumer Electronics, IEEE Transactions on Computational Social Systems, Mathematical Biosciences and Engineering, Signal Processing, Journal of Low Frequency Noise, Vibration & Active Control, ICIST2022, ICIST2024.

Providing conference-related services:

The 11th, 12th, and 13th International Conference on Information Science and Technology (ICIST), 2021, 2022, and 2023.

The 11th, and 12th International Conference on Intelligent Control and Information Processing (ICICIP), 2021, 2024.

The 18th International Symposium on Neural Networks (ISNN), 2024.

The 16th International Conference on Advanced Computational Intelligence (ICACI), 2024.

PUBLICATION

Optimization for capacitated clustering, TSP, Sudoku puzzles, QUBO:

H. Li and J. Wang, "Capacitated clustering via majorization minimization and collaborative neurodynamic optimization," IEEE Transactions on Neural Networks and Learning Systems, 2022. (IF: 14.255)

H. Li, J.S. Wang, and J. Wang, "Solving the travelling salesman problem based on collaborative neurodynamic optimization with discrete Hopfield networks," in 2021 11th International Conference on Information Science and Technology (ICIST). IEEE, 2021, pp. 456 – 465.

H. Li and J. Wang, "A collaborative neurodynamic optimization algorithm based on Boltzmann machines for solving the traveling salesman problem," in 2021 11th International Conference on Intelligent Control and Information Processing (ICICIP). IEEE, 2021, pp. 325 – 333.

H. Li and J. Wang, "Collaborative neurodynamic algorithms for solving Sudoku puzzles," in 2022 12th International Conference on Information Science and Technology (ICIST). IEEE, 2022, pp. 8 – 17.

Clustering algorithm and applications in fault diagnosis and index tracking:

H. Li and J. Wang, "CAPKM++ 2.0: An upgraded version of the collaborative annealing power k -means++ clustering algorithm," Knowledge-Based Systems, p. 110241, 2023. (IF: 8.139)

H. Li and J. Wang, "Collaborative annealing power k -means++ clustering," Knowledge-Based Systems, vol. 255, p. 109593, 2022. (IF: 8.139)

H. Li and J. Wang, "From Soft Clustering to Hard Clustering: A Collaborative Annealing Fuzzy c-means Algorithm," IEEE Transactions on Fuzzy Systems, (under review: second round).

R. Zhang, **H. Li**, and J. Wang, "Index tracking based on dynamic time warping and constrained k -medoids clustering," in 2021 11th International Conference on Intelligent Control and Information Processing (ICICIP). IEEE, 2021, pp. 352 – 359.

The following papers were published during my undergraduate studies. Dong Xiao was my supervisor.

D. Xiao, **H. Li**, and X. Sun, "Coal classification method based on improved local receptive field-based extreme learning machine algorithm and visible – infrared spectroscopy," ACS omega, vol. 5, no. 40, pp.25 772 – 25 783, 2020.

D. Xiao, **H. Li**, C. Liu, and Q. He, "Large-truck safety warning system based on lightweight SSD model," Computational intelligence and neuroscience, vol. 2019, 2019.

D. Xiao, **H. Li**, B. T. Le, S. Zhang, J. Wang, D. He, and X. Fu, "Research on a method of gross error elimination for slope monitoring data based on machine learning," IEEE Access, vol. 7, pp. 164 682 – 164 695, 2019.

D. Xiao, **H. Li**, Z. Ji, E. Xu, B. Luo, and J. Chen, "An anti-collision early warning system for mine trucks based on RBF network and Wi-Fi," in Journal of Physics: Conference Series, vol. 1631, no. 1. IOP Publishing, 2020, p. 012157.

D. Xiao, **H. Li**, and G. Jiang, "Spectral and BP neural network research on classification of iron ore," in Proceedings of the 2019 International Conference on Artificial Intelligence and Computer Science, 2019, pp.239 – 242.

D. Xiao, Q. He, **H. Li**, and C. Liu, "Real-time monitoring of mine landslide based on Gaussian mixture model," in Proceedings of the 2019 International Conference on Artificial Intelligence and Computer Science, 2019, pp. 468 – 471.

D. Xiao, B. T. Le, Z. Yu, C. Liu, **H. Li**, Q. He, H. Xie, and J. Wang, "A method of fault monitoring and diagnosis for the thickener in hydrometallurgy," IEEE Access, vol. 7, pp. 142 317 – 142 324, 2019.

D. Xiao, H. Xie, L. Jiang, B. T. Le, J. Wang, C. Liu, and **H. Li**, "Research on a method for predicting the underflow concentration of a thickener based on the hybrid model," Engineering Applications of Computational Fluid Mechanics, vol. 14, no. 1, pp. 13 – 26, 2020.

PATENT

Patents of Invention:

Anti-collision method and device for mine car, Dong Xiao, **Hongzong LI**, Qifei He.

Mine truck anti-collision warning system and method based on radar and WIFI, Dong Xiao, **Hongzong LI**, Qifei He.

Method and device for detecting iron content in iron ore, Dong Xiao, Guotai Jiang, **Hongzong Li**, Zeyuan Zhang.

Software Copyrights:

Vehicle panoramic assisted driving system, Dong Xiao, **Hongzong LI**, Qifei He.

WIFI-based anti-collision warning system for mining trucks, Dong Xiao, **Hongzong LI**, Qifei He.

Patent of Utility Model:

Anti-collision device for mine car, Dong Xiao, **Hongzong LI**, Qifei He.

Mine truck anti-collision warning system based on radar and WIFI, Dong Xiao, **Hongzong LI**, Qifei He.

RELEVANT SKILLS

Programming: MATLAB, Python, C++, HTTP

Languages: Mandarin (Native), English (Fluent), Cantonese (Beginner)