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个人简介

　　博士，教授，博士生导师，研究兴趣：深度学习，图像处理，人工智能，智能计算，人工神经网络，水声网络定位等。现为中国图像图形学会会员，广东省图像图形学会理事，广东省计算机学会会员，广东省计算机学会协同计算专委会、人工智能专委会委员；是 IEEE TNNLS, IEEE TII, IEEE TIE, IEEE TSMCA, IEEE TETC 等 20 多个期刊审稿人。2004 年 6 月获湖南大学计算机应用技术专业工学硕士学位, 2013 年 6 月获中山大学通信与信息系统专业工学博士学位，曾分别于2016 年、2023 年在美国佐治亚州立大学、英国莱斯特大学做访问学者。2004 年 7 月至今，在广东海洋大学从事信息学科相关的教学和科研工作。在图像处理、智能计算、模式识别、机器人运动规划等方面取得了一系列研究成果。主持广东省自然科学基金项目2 项，广东省科技厅科技计划项目2 项、广东省教育厅人工智能重点专项 1 项、特色创新项目 1 项、广东省教育厅研究生联合培养基地项目 1 项、研究生暑期学校项目 1 项、主持其他各类科研与教学项目 10 余项。在国内外期刊和国际会议上发表学术论文 90 多篇。其中包括发表于 IEEE TII, IEEE TSMCA, IEEE TCST, IEEE TETC, Information Sciences, Neurocomputing 等SCI 顶级期刊论文近40 篇。

研究方向

深度学习，计算机视觉，人工智能，智能计算，人工神经网络，水声网络定位等。

代表性科研成果（论文、专利、专著等）

　　论文：

[1]Xiuchun Xiao, Neal N. Xiong, Jianhuang Lai, ChangdongWang, Zhenan Sun, Jingwen Yan. A Local Consensus Index Scheme for Random-valued Impulse Noise Detection Systems [J], IEEE Transactions on Systems, Man and Cybernetics: Systems, 2021, 51(6):3412-3428.

[2]Xiuchun Xiao, Chengze Jiang, Huiyan Lu, Long Jin, Dazhao Liu, Haoen Huang, Yi Pan. A Parallel Computing Method Based on Zeroing Neural Networks for Time-varying Complex-valued Matrix Moore-Penrose Inversion [J]. Information Sciences, 2020, (524): 216 –228.

[3]Chengze Jiang, Xiuchun Xiao, Dazhao Liu, Haoen Huang, Hua Xiao, Huiyan Lu. Nonconvex and Bound Constraint Zeroing Neural Network for Solving Time-Varying Complex-Valued Quadratic Programming Problem [J]. IEEE Transactions on Industrial Informatics, 2021, 17(10): 6864 –6874.

[4]Xiuchun Xiao, Chengze Jiang, Haoen Huang, Guancheng Wang. Nonlinear RNN with Noise-immune: A Robust and Learning-free Method for Hyperspectral Image Target Detection [J]. Expert Systems with Applications, 2023, (229): 120490.

[5]Xiuchun Xiao, Chengze Jiang, Qixiang Mei, Yudong Zhang. Noise -tolerate and Adaptive Coefficient Zeroing Neural Network for Solving Dynamic Matrix Square Root[J]. CAAI Transactions on Intelligence Technology, 2024, (9): 167- 177.

[6]Xiuchun Xiao, Dongyang Fu, Guancheng Wang, Shan Liao, Yimeng Qi, Haoen Huang, Long Jin. Two Neural Dynamics Approaches for Computing System of Time-varying Nonlinear Equations [J]. Neurocomputing, 2020, (394): 84-94.

[7]Chengze Jiang and Xiuchun Xiao. Norm-Based Adaptive Coefficient ZNN for Solving the Time-Dependent Algebraic Riccati Equation [J]. IEEE/CAA Journal of Automatica Sinica, 2023, 10 (1): 298-300.

[8]Zhengtai Xie, Long Jin, Xiujuan Du, Xiuchun Xiao, Hongxin Li, and Shuai Li. On Generalized RMP Scheme for Redundant Robot Manipulators Aided with Dynamic Neural Networks and Nonconvex Bound Constraints [J]. IEEE Transactions on Industrial Informatics, 2019, 15(9): 5172-5181.

[9]Long Jin, Jingkun Yan, Xiujuan Du, Xiuchun Xiao, Dongyang Fu. RNN for Solving Time-variant Generalized Sylvester Equation with Applications to Robots and Acoustic Source Localization [J]. IEEE Transactions on Industrial Informatics, 2020, 16 (10), 6359-6369.

[10]Shan Liao, Jiayong Liu, Xiuchun Xiao, Dongyang Fu, Guancheng Wang, Long Jin. Modified Gradient Neural Networks for Solving the Time-varying Sylvester Equation with Adaptive Coefficients and Elimination of Matrix Inversion [J]. Neurocomputing, 2020, (379): 1- 11.

[11]Huan Wang, Dongyang Fu, Dazhao Liu, Xiuchun Xiao, Xianqiang He, Bei Liu. Analysis and Prediction of Significant Wave Height in the Beibu Gulf, South China Sea[J]. Journal of Geophysical Research: Oceans, 2021, 126(3): e2020JC017144.

[12]Zhiyuan Song, Zhenyao Lu, Jiahao Wu, Xiuchun Xiao, Guancheng Wang. Improved ZND Model for Solving Dynamic Linear Complex Matrix Equation and Its Application[J]. Neural Computing and Applications, 2022, 34 (23), 21035-21048.

[13]Zhengtai Xie, Long Jin, Xin Luo, Shuai Li, Xiuchun Xiao. A Data-driven Cyclic-motion Generation Scheme for Kinematic Control of Redundant Manipulators[J]. IEEE Transactions on Control Systems Technology, 2021, 29(1): 53-63.

[14]Haoen Huang, Dongyang Fu, Xiuchun Xiao, Yangyang Ning, Huan Wang, Long Jin, Shan Liao. Modified Newton Integration Neural Algorithm for Dynamic Complex-Valued Matrix Pseudoinversion Applied to Mobile Object Localization[J]. IEEE Transactions on Industrial Informatics, 2021, 17(4): 2432-2442.

[15]Haoen Huang, Dongyang Fu, Jiazheng Zhang, Xiuchun Xiao, Guancheng Wang, Shan Liao Modified Newton Integration Neural Algorithm for Solving the Multi-linear M-tensor Equation[J]. Applied Soft Computing, 2020, (96): 106674.

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[20]Dongyang Fu, Haoen Huang, Xiuchun Xiao, L. Xia and Long Jin, A Generalized Complex-Valued Constrained Energy Minimization Scheme for the Arctic Sea Ice Extraction Aided with Neural Algorithm[J]. IEEE Transactions on Geoscience and Remote Sensing, 2021, 60(11): 1- 17.

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[25]Huiting He, Chengze Jiang, Xiuchun Xiao, Guancheng Wang. A Dynamic Matrix Equation Solution Method Based on NCBC-ZNN and Its Application on Hyperspectral Image Multi-Target Detection[J]. Applied Intelligence, 2023, 53: 22267 –22281.

[26]Long Jin, Zeyu Su, Dongyang Fu, Xiuchun Xiao. Coevolutionary Neural Solution for Nonconvex Optimization With Noise Tolerance[J]. IEEE Transactions on Neural Networks and Learning Systems, 2023, DOI: 10. 1109/TNNLS.2023.3306374.

[27]Tangtao Luo, Xiuchun Xiao, Guancheng Wang. A New Non-convex Saturated Neural Network Approach for Dynamic Quadratic Minimization Problems[J]. Journal of Computational and Applied Mathematics, 2024.

专利：

　［1］一种基于零化神经网络求解时变连续代数Riccati方程的方法，202205847.

　［2］一种抗噪的卫星图像小目标检测方法，CN202010975834.X.

　［3］一种海表温度预测方法，CN202311230596.X.

　［4］基于投影零化递归神经网络的遥感图像目标检测算法，CN202010791358.6.

　［5］基于可靠声路径到达角的水下目标主动定位装置，CN201921766674.7.

科研项目

1. 广东省教育厅，广东省研究生教育创新计划项目，202205， 联合培养研究生示范基地，2023-05 至 2028-05, 40 万元， 在研， 主持；

2. 广东省科技厅，广东省自然科学基金面上项目，2023A1515011477， 基于神经动力学的海洋图像优化问题求解研究，2023-01 至 2025- 12, 10 万元， 在研， 主持；

3. 广东省科技厅，广东省自然科学基金面上项目，2021A1515011847，面向时变问题的神经动力学求解及其应用研究，2021-01 至 2023-12，10 万元，结题，主持；

4. 广东海洋大学，研究生教育创新计划项目，202160，研究生学术论坛：人工智能及农渔业应用新技术学术论坛，2021-05 至 2023-05，10 万元，结题，主持；

5. 广东省教育厅，广东省普通高校重点领域专项，2019KZDZX1036，基于时变问题智能求解的机器人运动规划研究，2020-03 至 2023-03，60 万元，结题，主持；

6.广东省教育厅，广东省研究生教育创新计划项目，2020SQXX19，研究生暑期学校：农业领域的信息化技术与应用暑期学校，2019-04 至 2021-03，15 万元，结题，主持。