CONG WANG

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Gender: Male **Date of Birth:** July 5, 1992

Add: No.2 South Taibai Road **Tel:** 86-18792922961

Xi'an, Shaanxi Province, China, 710071

EDUCATION EXPERIENCE

2017–present **Doctor of Philosophy**, Xidian University
Supervisor: Prof. Mengchu Zhou & Zhiwu Li & Witold Pedrycz

2014–2017 **Master of Science**, Mathematics, Hohai University
Thesis: Tight Wavelet Frames Based Mesh Surface Denoising
Supervisor: Dr. Jianbin Yang

2010–2014 **Bachelor of Engineering**, Automation, Hohai University
Thesis: Research on Maximum Power Point Tracking for Photovoltaic Off-grid System Based on Particle Swarm Optimization Algorithm
Supervisor: Prof. Yuncan Xue

PROFESSION EXPERIENCE

May 2020–Nov. 2020 **Visiting Ph.D. Student**, Department of Electrical and Computer Engineering, National University of Singapore (NUS), Singapore
Supervisor: Prof. Shuzhi Sam Ge

Oct. 2019–Apr. 2020 **Research Assistant**, School of Computer Science and Engineering, Nanyang Technological University (NTU), Singapore
Supervisor: Assi. Prof. Jun Zhao

Mar. 2019–Jun. 2019 **Visiting Ph.D. Student**, Department of Electrical and Computer Engineering, University of Alberta (UA), Canada
Supervisor: Prof. Witold Pedrycz

RESEARCH INTERESTS

- Wavelet Analysis and Its Applications
- Granular Computing
- Pattern Recognition and Image Processing
- Computer Vision

PROFESSIONAL SKILLS

- Hardware Description Languages: VHDL, Verilog
- High-level Languages: C, C++

- Algorithm Development Environments: Matlab, Mathematica
- Jiangsu Computer Rank Examination 3
- Literature Searching Online

Professional Activities

International Journal (Conference) Reviewer

- IEEE Photonics Journal
- Ecological Indicators
- IEEE/CAA Journal of Automatica Sinica
- Applied Soft Computing
- Applied Mathematical Modelling
- IEEE Systems Journal
- IEEE Transactions on Fuzzy Systems
- IEEE Transactions on Neural Networks and Learning Systems
- IEEE Access
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- Anais da Academia Brasileira de Ciências
- ACM Transactions on Internet Technology
- International Journal of Communication Systems
- 2019 IEEE 15th International Conference on Automation Science and Engineering
- 2020 IEEE 16th International Conference on Automation Science and Engineering
- 2020 IEEE International Conference on Systems, Man and Cybernetics

ACADEMIC ACTIVITIES

Oct. 2016	XDU Workshop On Brain Computing and Deep Learning of Big Data, Xidian University, Xi'an, China
Aug. 2016	PKU Workshop On Mathematics in Imaging Science and Data Analysis (MISDA), Peking University, Beijing, China
Apr. 2016	NKU Workshop On Wavelet Analysis and Its applications, Nankai University, Tianjin, China
Apr.–May 2015	Open Class: Supervisory Control Theory of Discrete Event System, Xidian University, Speaker: Prof. W. M. Wonham
Dec. 2013	2013 International Conference on Computer Sciences and Applications, Wuhan, China
Sep. 2014–Jun. 2017	Graduate Class Monitor, College of Science, Hohai University

RESEARCH PROJECTS

Jan. 2021–Dec. 2024 **Main Participant,** Grant No: 62076189
National Natural Science Foundation of China (国家自然科学基金面上项目)
Title: Spatio-temporal data analysis and modeling based on granular computing framework (基于粒计算框架的时空数据分析与建模研究)

Oct. 2019–
Nov. 2020

Host, Grant No: None
Doctoral Students' Short Term Study Abroad Scholarship Fund of Xidian University (西安电子科技大学博士生短期出国访学项目)

Sep. 2019–
Sep. 2021

Host, Grant No: None
Foundation for Excellent Doctorial Dissertations of Xidian University (西安电子科技大学优秀博士学位论文资助基金)

Mar. 2019–
Jun. 2019

Host, Grant No: None
Excellent Chinese and Foreign Youth Exchange Program of the China Association for Science and Technology (中国科协优秀中外青年交流计划)

May 2018–
May 2019

Host, Grant No: None
Innovation Fund of Xidian University (西安电子科技大学研究生创新基金项目)
Title: Tight wavelet frames based graph data segmentation

Jan. 2018–
Dec. 2021

Main Participant, Grant No: 11771120
National Natural Science Foundation of China (国家自然科学基金面上项目)
Title: Wavelet frame-based scattered data reconstruction and its application in computational biology (基于小波框架的散乱数据重构及其在计算生物中的应用)

Oct. 2015–
Oct. 2016

Host, Grant No: 2015B38014
Fundamental Research Funds for the Central Universities (江苏省普通高校学术学位研究生创新计划项目，依托中央高校基本科研业务费)
Title: Optimal design of supervisors for discrete event system (离散事件系统监控器的优化设计)

Jun. 2015–
Jun. 2017

Main Participant, Grant No: 2015B19514
Fundamental Research Funds for the Central Universities (中央高校基本科研业务费)
Title: Wavelet analysis methods based surface reconstruction (基于小波分析方法的曲面重构研究)

May 2015–
Apr. 2016

Main Participant
Undergraduate Innovation and Entrepreneurship Training Program of Hohai University (河海大学大学生创新创业训练项目)
Title: Surface reconstruction based on 3D point cloud (基于三维离散点的曲面重构研究)

Nov. 2011–

Host

Nov. 2012 Undergraduate Science and Technology Funds of Hohai University (河海大学学生科技基金项目)
Title: Research on consummation and unification of regression analysis methods (回归分析理论方法的完善和统一研究)

PUBLICATIONS

Journal Articles

[1] **Cong Wang**, Witold Pedrycz, Zhiwu Li, and Mengchu Zhou. Partition-sparse Fuzzy C-Means with spatial information and wavelet kernel for G-image segmentation. *IEEE Transactions on Cybernetics*, 2020. (**Ongoing**, SCI Q1, Regular Paper)

[2] **Cong Wang**, Witold Pedrycz, Zhiwu Li, and Mengchu Zhou. Comparative study on noise-estimation-based Fuzzy C-Means clustering for image segmentation. *IEEE Transactions on Fuzzy Systems*, 2020. (**Submitted**, SCI Q1, Full Paper)

[3] **C. Wang**, W. Pedrycz, Z. Li, and M. Zhou. Kullback-Leibler divergence-based Fuzzy C-Means clustering incorporating morphological reconstruction and wavelet frames for image segmentation. *IEEE Transactions on Cybernetics*, 2020. (**Submitted**, SCI Q1, Regular Paper)

[4] T. L. Jing, **C. Wang**, W. Pedrycz, Z. Li, G. Succi, and M. Zhou. Granular models as networks of associations of information granules: A development through augmented principle of justifiable granularity. *IEEE Transactions on Fuzzy Systems*, 2020. (**Submitted**, SCI, IF: 9.518, Full Paper)

[5] J. Yang, H. Hou, **C. Wang**. A feature-driven variational model for mesh denoising. *IEEE Transactions on Visualization and Computer Graphics*, 2020. (**Submitted**, SCI, IF: 3.78, Regular Paper)

[6] **C. Wang**, W. Pedrycz, Z. Li, M. Zhou, and J. Zhao. Residual-sparse Fuzzy C-Means clustering incorporating morphological reconstruction and wavelet frame. *IEEE Transactions on Fuzzy Systems*, 2020. (**Accepted**, SCI Q1, Full Paper)

[7] **C. Wang**, W. Pedrycz, Z. Li, and M. Zhou. Residual-driven Fuzzy C-Means clustering for image segmentation. *IEEE/CAA Journal of Automatica Sinica*, 2020. (**Accepted**, SCI Q1, Regular Paper)

[8] **C. Wang**, W. Pedrycz, Z. Li, M. Zhou, and S. S. Ge. G-image segmentation: Similarity-preserving Fuzzy C-Means with spatial information constraint in wavelet space. *IEEE Transactions on Fuzzy Systems*, 2020. (**Accepted**, SCI Q1, Full Paper)

[9] **C. Wang**, W. Pedrycz, M. Zhou, Z. Li. Sparse regularization-based Fuzzy C-Means clustering incorporating morphological grayscale reconstruction and wavelet frames. *IEEE Transactions on Fuzzy Systems*, 2020. (**In Press,** SCI Q1, Full Paper)

[10] **C. Wang**, Z. Yan, W. Pedrycz, J. Yang, M. Zhou, Z. Li. A weighted fidelity and regularization-based method for mixed or unknown noise removal from images on graphs. *IEEE Transactions on Image Processing*, 2020, 29(1): 5229–5243. (SCI Q1, Regular Paper, WOS: 000522185800001)

[11] **C. Wang**, W. Pedrycz, J. Yang, M. Zhou, Z. Li. Wavelet frame-based Fuzzy C-Means clustering for segmenting images on graphs. *IEEE Transactions on Cybernetics*, 2020, 50(9): 3938–3949. (SCI Q1, Regular Paper)

[12] **C. Wang**, J. Chen, Z. Li, E. Nasr, A. M. El-Tamimi. An indicator system for evaluating the development of land-sea coordination systems: A case study of Lianyungang port. *Ecological Indicators*, 2019, 98: 112–120. (**Corresponding author,** SCI Q1, Regular Paper, WOS: 000464891100013)

[13] **C. Wang**, J. Yang. Poisson noise removal of images on graphs using tight wavelet frames. *The Visual Computer*, 2018, 34(10): 1357–1369. (SCI Q3, Regular Paper, WOS: 000442204400007)

[14] J. Yang, **C. Wang**. A wavelet frame approach for removal of mixed Gaussian and impulse noise on surfaces. *Inverse Problems and Imaging*, 2017, 11(5): 783–798. (SCI Q1, Regular Paper, WOS: 000411945300001)

[15] **C. Wang**, J. Yang, Y. Deng. Application of mathematical modeling methods in wind-power prediction. *Acta Energiae Solaris Sinica*, 2015, 36(5): 1081–1087. (EI: 20153001062255)

[16] **C. Wang**. Data-driven tight frame based image restoration with Poisson noise. *Information Technology*, 2017, 9: 71–75. (in Chinese)

[17] D. Ma, **C. Wang**. Removal of mixed Gaussian and impulse noise using data-driven tight frames. *Journal of Engineering Science and Technology Review*, 2018, 11(2) : 26–31. (**Corresponding author**, EI: 20182405313426)

[18] X. Li, **C. Wang**. Wavelet Frame Based Nonlocal Surface Fairing. *Electronic Design Engineering*, 2017, 20(5): 178–181. (**Corresponding author**, in Chinese)

[19] Y. Deng, **C. Wang**. Applications on maximum power point tracking for photovoltaic off-grid system based on particle swarm optimization algorithm under partial shaded conditions. *Journal of Nanjing University of Information Science and Technology*, 2017, 9(1): 106–112. (**Corresponding author**, in Chinese)

[20] Y. Feng, **C. Wang**. Research on combination forecasting model in outstanding of deposits forecast. *Economic Research Guide*, 2018, 14: 146–150. (**Corresponding author**, in Chinese)

[21] L. Fan, **C. Wang**. Application of data-driven tight frame in gray image denoising. *Electronic Design Engineering*, 2017, 25(15): 180–183. (**Corresponding author**, in Chinese)

[22] L. Du, **C. Wang**. Data-driven tight frame based image restoration. *Electronic Design Engineering*, 2017, 25(22): 178–181. (**Corresponding author**, in Chinese)

Conference Articles

[1] J. Yang, E. Zhang, **C. Wang**. Color image segmentation via wavelet frames. In: Proceedings of the 2019 IEEE 4th International Conference on Signal and Image Processing (ICSIP), pp. 975–979, Jul. 2019. (EI: 8868564)

[2] J. Yang, **C. Wang**. A developed Fuzzy C-Means algorithm for mesh segmentation. In: *Proceedings of the 2018 11th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics*, Jul. 2018. (EI: 8633099)

[3] J. Zhang, **C. Wang**. Application of ARMA model in ultra-short term prediction of wind power. In: *Proceedings of International Conference on Computer Sciences and Applications*. IEEE Computer Society, 2013: 361–364. (EI: 20143017964633)

SELECTED HONORS & REWARDS

- National Scholarship (2.5%), China, Dec. 2019
- Outstanding Graduates Prize (10%), Hohai University, Jun. 2017
- Merit Student (4‰), Jiangsu Province, May 2017
- National Scholarship (2.5%), China, Dec. 2016
- First Prize in the 2014's Young Academic Forum, Hohai Univerity, Jan. 2015
- Second Prize in the 2011's National Undergraduate Mathematic Modeling Competition, China, Nov. 2011