Zhengang Guo

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Biography

Zhengang Guo (B.Eng.'15, Ph.D.'21) is currently a Ph.D. student of the Department of Electrical and Electronic Engineering at Imperial College London, London, UK. He received the B.Eng. and Ph.D. degrees in mechatronic engineering from Northwestern Polytechnical University, Xi'an, China, in July 2015 and June 2021, respectively. From September 2018 to September 2020, he was a joint Ph.D. student at Cardiff University, Cardiff, UK. In 2023, he was a visiting scholar at Cornell University, NY, USA. His research interests include super-resolution, nonconvex optimization, and wireless communications.

Appointment

Visiting Scholar, Electrical and Computer Engineering, Cornell University
(May 2023 – August 2023)
Signal, Information, Networks and Energy Laboratory (SINE Lab), Electrical and Computer Engineering
Supervisors: Prof. Anna Scaglione, FIEEE

Education

Ph.D., Electrical and Electronic Engineering, Imperial College London
(January 2020 – Present)
Communications and Signal Processing Group, Department of Electrical and Electronic Engineering
Supervisors: Dr. Wei Dai, Prof. Bruno Clerckx, FIEEE, FIET
Ph.D., Mechatronic Engineering, Northwestern Polytechnical University
(September 2015 – June 2021)
Department of Industrial Engineering, School of Mechanical Engineering
Supervisor: Prof. Yingfeng Zhang
Joint Ph.D. (Non Degree), Electrical and Electronic Engineering, Cardiff University
(September 2018 – September 2020)
Centre for Integrated Renewable Energy Generation and Supply, School of Engineering
Supervisor: Prof. Jianzhong Wu
B.Eng., Mechatronic Engineering, Northwestern Polytechnical University
(September 2011 – July 2015)
Department of Industrial Engineering, School of Mechanical Engineering
Supervisor: Prof. Yingfeng Zhang

Research Projects

1. Research and Demonstration Application of Network Collaborative Manufacturing Integration Technology for Customized Production of Rail Transit Equipment
Grant 2018YFB1703400, National Key R&D Program of China, June 2019 - May 2022
2. Signal Sensing, Design and Delivery for Electronic Environment (Joint ICL-UCL Consortium)
Grant EP/S026657/1, Supported by UK EPSRC, Value £520,757, April 2019 - March 2022
3. Research on Self-Adaptive Collaborative Optimization Approach of Smart Production-Logistics Systems Based on CPS and Industrial Internet of Things
Grant 51675441, Supported by National Natural Science Foundation of China, January 2017 - December 2020
4. Research on Modelling and Optimization Approach for Local Energy Networks (PI)
Grant 201806290042, Supported by State Scholarship Fund of China, September 2018 – September 2020
5. Innovative Design of Smart Equipment Based on CPS (PI)

Membership

IEEE Young Professionals
Member, IEEE
Member, IEEE Power & Energy Society
Member, IEEE Signal Processing Society

Academic Services

Conference Organization
Organizing Committee Member, The 19th International Manufacturing Conference in China (IMCC) 2021
Oral Session Chair, The Sino-German Forum on Manufacturing (SGFM) 2021
Peer Reviewer in Journals
IEEE Transactions on Industrial Informatics, IEEE Transactions on Automation Science and Engineering, IEEE Transactions on Intelligent Transportation Systems, IEEE Intelligent Transportation Systems Magazine, International Journal of Production Research, Frontiers of Engineering Management, Applied Energy

Awards

1. Outstanding Doctoral Dissertation
Awarded by Education Department of Shaanxi Provincial Government, November 2023
2. Outstanding Doctoral Dissertation
Awarded by Northwestern Polytechnical University, April 2023
3. Deans Fund
Awarded by Imperial College London, April 2023
4. Turing Award/Global Fellows Fund
Awarded by the UK government's Turing Scheme & Imperial College London, February 2023
5. Beijing Jingdiao Fellowship
Awarded by Northwestern Polytechnical University & Beijing Jingdiao Group Co.,Ltd, March 2022
6. Outstanding Ph.D. Graduate
Awarded by Northwestern Polytechnical University, March 2022
7. Huawei Scholarship
Awarded by Northwestern Polytechnical University & Huawei Technologies Co., Ltd, November 2020
8. Hexagon First-Class Scholarship
Awarded by Northwestern Polytechnical University & Hexagon AB, November 2017
9. Outstanding Graduate Scholarship/First-Class Academic Scholarship
Awarded by Northwestern Polytechnical University, October 2017
10. Outstanding Student Scholarship
Awarded by Northwestern Polytechnical University, October 2014
11. Excellence Award of National Innovation and Entrepreneurship Program
Awarded by Ministry of Education of China, May 2014

Teaching

EE4.07 Coding Theory (40 hours, Dr. Wei Dai)
Graduate Teaching Assistant, Department of EEE, Imperial College London, October 2023 - December 2023
EE4.07 Coding Theory (40 hours, Dr. Wei Dai)
Graduate Teaching Assistant, Department of EEE, Imperial College London, October 2022 - December 2022
EE4.66 Topics in Large Dimensional Data Processing (50 hours, Dr. Wei Dai)
Graduate Teaching Assistant, Department of EEE, Imperial College London, October 2021 - December 2021
EE4.66 Topics in Large Dimensional Data Processing (40 hours, Dr. Wei Dai)
Graduate Teaching Assistant, Department of EEE, Imperial College London, October 2020 - December 2020

Publications

Google Scholar Citation = 473, h-index = 6, i10-index = 4. (Note: * corresponding authorship)

[1] **Z. Guo** and W. Dai, “Joint Multi-Band DOA Estimation Using Low-Rank Matrix Recovery”, in ***2024 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)***, Seoul, Korea, April 2024, Accepted;

[2] **Z. Guo** and W. Dai, “Gridless joint multi-band DOA estimation for spectrum sensing”, in ***2023 IEEE 9th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)***, Los Sueños, Costa Rica, December 2023, pp.311–315. (**Travel Grant Award**)

[3] **Z. Guo**, Y. Zhang*, S. Liu, X. V. Wang and L. Wang, "Exploring self-organization and self-adaption for smart manufacturing complex networks", ***Frontiers of Engineering Management***, Nov. 2022.

[4] **Z. Guo**, Y. Zhang*, X. Zhao and X. Song, "CPS-Based Self-Adaptive Collaborative Control for Smart Production-Logistics Systems", ***IEEE Transactions on Cybernetics***, vol. 51, no. 1, pp. 188-198, Jan. 2021.

[5] **Z. Guo**, Y. Zhang*, J. Lv, Y. Liu and Y. Liu, "An Online Learning Collaborative Method for Traffic Forecasting and Routing Optimization", ***IEEE Transactions on Intelligent Transportation Systems***, vol. 22, no. 10, pp. 6634-6645, Oct. 2021.

[6] Y. Zhang*, **Z. Guo**, J. Lv and Y. Liu, "A Framework for Smart Production-Logistics Systems Based on CPS and Industrial IoT", ***IEEE Transactions on Industrial Informatics***, vol. 14, no. 9, pp. 4019-4032, Sept. 2018.

[7] Y. Zhang*, **Z. Guo**, C. Qian and R. Li, "Investigation on Process-aware Based Intelligent Modeling of Bottom Layer Manufacturing Resources and Self-adaptive Collaborative Optimization Methodology", ***Journal of Mechanical Engineering***, vol. 54, no. 16, pp. 1-10, Aug. 2018.

[8] **Z. Guo**, Y. Zhang*, X. Zhao and X. Song, "A Timed Colored Petri Net Simulation-Based Self-Adaptive Collaboration Method for Production-Logistics Systems", ***Applied Sciences***, vol. 7, no. 3, pp. 235, Mar. 2017.

[9] Y. Liu*, M. Yang and **Z. Guo**, "Reinforcement learning based optimal decision making towards product lifecycle sustainability", ***International Journal of Computer Integrated Manufacturing***, vol. 35, no. 10-11, pp. 1269-1296, Jan. 2022.

[10] O. Tang, Y. Liu*, **Z. Guo** and S. Wei, "Refund policies and core classification errors in the presence of customers’ choice behaviour in remanufacturing", ***International Journal of Production Research***, vol. 59, no. 12, pp. 3553-3571, Mar. 2021.

References

1. Dr. Wei Dai, Communications and Signal Processing Group, Department of Electrical and Electronic Engineering, Imperial College London, London, UK. E-mail: wei.dai1@imperial.ac.uk

2. Prof. Bruno Clerckx, Communications and Signal Processing Group, Department of Electrical and Electronic Engineering, Imperial College London, London, UK. E-mail: b.clerckx@imperial.ac.uk

3. Prof. Anna Scaglione, Signal, Information, Networks and Energy Laboratory, Department of Electrical and Computer Engineering, Cornell University, NY, USA. E-mail: as337@cornell.edu

4. Prof. Yingfeng Zhang, Department of Industrial Engineering, School of Mechanical Engineering, Northwestern Polytechnical University, Xi’an, China. E-mail: zhangyf@nwpu.edu.cn

5. Prof. Jianzhong Wu, Centre for Integrated Renewable Energy Generation and Supply, School of Engineering, Cardiff University, Cardiff, UK. E-mail: wuj5@cardiff.ac.uk