

Chao Zhou (周超)

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Citizenship: Chinese

Research interests machine learning, mathematics&physic inspired learning systems, generative model, image&signal processing

Education

University College London (UCL)	London, UK
PhD in Machine learning for hyperspectral imaging	Sep.2018 – Sep.2023
Supervisor: Professor Miguel Rodrigues	

University of Electronic S&T of China (UESTC)	Chengdu, China
Master in Communication and Information System	Sep 2015 – Jun 2018
Mentor: Professor Xuesong Jonathan Tan	

Wuhan University of Technology (WHUT)	Wuhan, China
Bachelor in Communication Engineering	Sep 2011 – Jun 2015
Mentor: Professor Kewen Liu	

Research experience

Relational Machine Learning Group, CISPA Helmholtz Center for Information Security, Saarbrücken, Germany	Postdoc
Supervisor: Dr. Rebekka Burkholz	May.2024 – present
working under sparse-ML Project.	

Information, Inference and Machine Learning (I2ML) lab, UCL, London, UK,	PhD
Mentor: Professor Miguel Rodrigues	Sep.2018 – Sep.2023
develop machine learning algorithms for hyperspectral image unmixing.	

Publications

1. **C. Zhou** and M. R. D. Rodrigues, "Hyperspectral Blind Unmixing Using a Double Deep Image Prior," in *IEEE Transactions on Neural Networks and Learning Systems*, doi: 10.1109/TNNLS.2023.3294714.
2. **C. Zhou**, Z. Lyu and M. R. D. Rodrigues, "BITS-Net: Blind Image Transparency Separation Network," 2023 IEEE International Conference on Image Processing (ICIP), Kuala Lumpur, Malaysia, 2023, pp. 375-379, doi: 10.1109/ICIP49359.2023.10222918.
3. W. Pu, B. Sober, N. Daly, **C. Zhou**, Z. Sabetsarvestani, C. Higgitt, I. Daubechies, and M. R. D. Rodrigues, "Image Separation with Side Information: A Connected Auto-Encoders Based Approach," in *IEEE Transactions on Image Processing*, vol. 32, pp. 2931-2946, 2023, doi: 10.1109/TIP.2023.3275872.
4. **C. Zhou** and M. R. D. Rodrigues, "Blind Unmixing Using A Double Deep Image Prior," ICASSP 2022 - 2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Singapore, Singapore, 2022, pp. 1665- 1669, doi: 10.1109/ICASSP43922.2022.9747545.
5. W. Pu, **C. Zhou**, Y. C. Eldar, and M. R. D. Rodrigues. "Robust lEarned Shrinkage-Thresholding (REST): Robust unrolling for sparse recover." arXiv preprint arXiv:2110.10391 (2021).
6. **C. Zhou** and M. R. D. Rodrigues, "ADMM-Based Hyperspectral Unmixing Networks for Abundance and Endmember Estimation," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-18, 2022, Art no. 5520018, doi: 10.1109/TGRS.2021.3136336.
7. W. Pu, **C. Zhou**, Y. C. Eldar and M. R. D. Rodrigues, "REST: Robust lEarned Shrinkage-Thresholding Network Taming Inverse Problems with Model Mismatch," ICASSP 2021 - 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Toronto, ON, Canada, 2021, pp. 2885-2889, doi: 10.1109/ICASSP39728.2021.9414141.
8. **C. Zhou** and M. R. D. Rodrigues, "An ADMM Based Network for Hyperspectral Unmixing Tasks," ICASSP 2021 - 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Toronto, ON, Canada, 2021, pp. 1870-1874, doi: 10.1109/ICASSP39728.2021.9414555.
9. X. J. Tan, **C. Zhou** and J. Chen, "Symmetric Channel Hopping for Blind Rendezvous in Cognitive Radio Networks Based on Union of Disjoint Difference Sets," in *IEEE Transactions on Vehicular Technology*, vol. 66, no. 11, pp. 10233-10248, Nov. 2017, doi: 10.1109/TVT.2017.2726352.

Teaching experience	Teaching assistant, UCL Consultants Limited and Turing Innovations Ltd	2020-2023
	Machine Learning Masterclass for Defence Science and Technology Laboratory (DSTL), UK	
	Duties: Mini-project; Answer questions re. mini-project; Weekly programming Assignment/Tasks; Answer questions re. weekly programming assignment/tasks; Answer moodle questions re above; Quizzes; Reading material; Maintain/Fill-in moodle pages.	
	Post Graduate Teaching Assistant, Dept. of Electronic and Electrical Engineering at UCL	Fall 2020 & Fall 2021
	ELEC0134: Applied Machine Learning Systems	
	Duties: Mini-project; Answer questions re. mini-project; Weekly programming Assignment/Tasks; Answer questions re. weekly programming assignment/tasks; Answer moodle questions re above; Quizzes; Reading material; Maintain/Fill-in moodle pages.	
	Post Graduate Teaching Assistant, Dept. of Electronic and Electrical Engineering at UCL	Fall 2019
	ELEC0136: Data Acquisition and Processing Systems	
	The module will cover aspects of data acquisition, data visualization, data cleaning, data analysis and processing.	
Industry experience	Huawei Technologies Co., Ltd.	Shenzhen, China
	Senior R&D Engineer	Jan 2024-Apr 2024
	Huawei Technologies Research & Development (UK) Ltd.	London, UK
	Research Intern	Jun 2022-Jan 2023
Honors and scholarships	The First-class National Scholarship of Graduate Students (UESTC)	2017
	The Seventh Place of College Fitness of Mianyang Fitness Bodybuilding Championships	2016
	The Outstanding Graduate Student (UESTC)	2016
	The First-class National Scholarship of Graduate Students (UESTC)	2016
	The First-class National Scholarship of Graduate Students (UESTC)	2015
	Advanced Individuals of Innovation and Entrepreneurship for work of Communist Youth League (WHUT)	2014
	The National Endeavor Fellowship of Undergraduate Students, (WHUT)	2013
	The First-Class Prize of National Undergraduate Electronics Design Contest (WHUT)	2013
	The University Outstanding Student Leaders (WHUT)	2013
	The Second-Class Prize of the Sixth Electric and Electronic Innovation Design Contest (WHUT)	2013
	The School Outstanding Student (WHUT)	2012

Skills

Programming

Proficient in: python, pytorch, matlab.

Familiar with: C, Java.

Languages

Chinese, English

Other interests

Bodybuilding.