Yi Chang

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RESEARCH
INTERESTS

Computer Vision, ***Image Processing***, ***Deep Learning***;
Multispectral Image Restoration, ***Image Enhancement***, ***Object Detection***.

EDUCATION

Huazhong University of Science and Technology (HUST)

Ph.D., School of Artificial Intelligence and Automation, Dec. 2019
National Key Laboratory of Science and Technology on Multispectral Information Processing,

- Supervisor: Sheng Zhong, Ph.D

M.S., School of Automation, June 2014

- Thesis Topic: *Research on Variational Regularization-based Nonuniformity Correction*
- Supervisor: Luxin Yan, Ph.D

University of Electric Science and Technology of China (UESTC)

B.S., School of Automation Engineering, June 2011

RESEARCH
EXPERIENCE

Research Intern   Nov. 2017 to Feb. 2018
Machine Learning Group, YouTu Lab, Tencent
Supervisor: Yu-Wing Tai, Ph.D

Research Assistant   Jun. 2014 to Jul. 2015
Department of Machine Intelligence, Peking University
Supervisor: Zhouchen Lin, Ph.D

UNDER REVIEW

1. **Yi Chang**[1], Meiya Chen[1], Luxin Yan, and Sheng Zhong. Direction and residual awareness for rain streaks removal . *IEEE Computer Vision and Pattern Recognition* (CVPR), 2020. (Equal contribution).

2. **Yi Chang**, Luxin Yan, and Sheng Zhong. Hyperspectral image restoration: where does the low-rank property exist. *IEEE Trans. on Image Process.*, 2020.

3. **Yi Chang**, Luxin Yan, Xi-le Zhao, Houzhang Fang, Sheng Zhong, and Zhijun Zhang. Weighted low-rank tensor recovery for hyperspectral image restoration. *IEEE Trans. on Cybern.*, 2018.

4. Meiya Chen,**Yi Chang**, Shuning Cao, and Luxin Yan. Learning blind denoising network for noisy image deblurring. *IEEE International Conference on Acoustics, Speech and Signal Processing*, 2019.

5. Luxin Yan, Meiya Chen, Wenshan Liao, and **Yi Chang**. Nonlinear deblurring for saturated image. *IEEE Trans. on Circuits Syst. Video Technol.*, 2019.

6. Yetao Wang, Xi-le Zhao, Taixiang Jiang, Liangjian Deng, **Yi Chang**, and Tingzhu Huang. Rain streak removal for single image via kernel guided CNN. *IEEE Trans Neural Netw. Learn Syst.*, 2018.

PUBLICATIONS

1. **Yi Chang**, Luxin Yan, Meiya Chen, and Sheng Zhong. Toward universal stripe removal via wavelet based deep convolutional neural network. *IEEE Trans. on Geosci. and Remote Sens.*, 2020.

2. **Yi Chang**, Luxin Yan, Meiya Chen, Houzhang Fang, and Sheng Zhong. Two-stage convolutional neural network for medical noise removal via image decomposition. *IEEE Trans. Instrum. Meas.*, 2020.

3. Huimin Liu,**Yi Chang**, Ziqin Li, Zhong Sheng, and Luxin Yan. Directional-aware automatic defect detection in high-speed railway catenary system. *IEEE International Conference on Image Processing* (ICIP), 2019.

4. **Yi Chang**, Luxin Yan, Li Liu, Houzhang Fang, and Sheng Zhong. Infrared aero-thermal nonuniform correction via deep multiscale residual network. *IEEE Geosci. and Remote Sens. Lett.*, 2019.

5. **Yi Chang**[1*], Shoukui Yao[1], and Xiaojuan Qin. A coarse-to-fine method for infrared small target detection. *IEEE Geosci. and Remote Sens. Lett.*, 2019. (Equal Contribution)

6. **Yi Chang**, Luxin Yan, Houzhang Fang, and Sheng Zhong. HSI-DeNet: Hyperspectral image restoration via deep convolutional neural network. *IEEE Trans. on Geosci. and Remote Sens.*, 2019.

7. Shoukui Yao, **Yi Chang**, Xiaojuan Qin, Yaozong Zhang, and Tianxu Zhang. Principal component dictionary based patch grouping for image denoising. *J. Vis. Commun. Image R.*, 2018.

8. Wenfei Cao, **Yi Chang**, Guodong Han, and Junbing Li. Destriping remote sensing image via low-rank approximation and nonlocal total variation. *IEEE Geosci. and Remote Sens. Lett.*, 2018.

9. **Yi Chang**, Luxin Yan and Sheng Zhong. Transformed low-rank model for line pattern noise removal, *IEEE International Conference on Computer Vision* (ICCV), 2017.

10. **Yi Chang**, Luxin Yan and Sheng Zhong. Hyper-Laplacian regularized unidirectional low-rank tensor recovery for multispectral image denoising, *IEEE Computer Vision and Pattern Recognition* (CVPR), 2017.

11. Luxin Yan, Wenshan Liao, **Yi Chang** and Chunan Luo. Joint local and non-local priors for ground-based image denoising. *IEEE International Geoscience and Remote Sensing Symposium* (IGARSS), 2017.

12. **Yi Chang**, Luxin Yan and Sheng Zhong. Hyperspectral image restoration via spectral and spatial low-rank approximation, *IEEE International Geoscience and Remote Sensing Symposium* (IGARSS), 2017.

13. Houzhang Fang, **Yi Chang**, and Gang Zhou. Iteratively reweighted blind deconvolution with adaptive regularization parameter estimation. *IEEE Access*, 2017

14. **Yi Chang**, Luxin Yan, Tao Wu and Sheng Zhong. Remote sensing image stripe noise removal: from image decomposition perspective, *IEEE Transaction on Geosci. and Remote Sens.*, 2016.

15. **Yi Chang**, Luxin Yan, Houzhang Fang and Chunan Luo. Anisotropic spectral-spatial total variation model for multispectral remote sensing image destriping, *IEEE Trans. on Image Process.*, 2015.

16. **Yi Chang**, Luxin Yan, Houzhang Fang, Hai Liu. Simultaneous destriping and denoising for remote sensing images with unidirectional total variation and sparse representation. *IEEE Geosci. and Remote Sens. Lett.*, 2014.

17. **Yi Chang**, Houzhang Fang, Luxin Yan and Hai Liu. Robust destriping method with unidirectional total variation and framelet regularization, *Optics Exp.*, 2013.

18. **Yi Chang**, Houzhang Fang, Luxin Yan and Hai Liu. Joint blind deblurring and destriping for remote sensing images, *IEEE International Conference on Image Processing* (ICIP), 2013.

19. Houzhang Fang, Luxin Yan, Hai Liu, **Yi Chang**. Blind Poissonian images deconvolution with framelet regularization. *Optics Lett.*, 2013.

20. Hai Liu, Luxin Yan, **Yi Chang**, Houzhang Fang, Tianxu Zhang. Spectral deconvolution and feature extraction with robust adaptive Tikhonov regularization. *IEEE Trans. Instrum. Meas.*, 2013.

21. Hai Liu, Tianxu Zhang, Luxin Yan, Houzhang Fang, **Yi Chang**. A MAP-based algorithm for spectroscopic semi-blind deconvolution, *Analyst*, 2012.

HONORS & AWARDS	Student Awards — Huazhong University of Science and Technology (HUST)

- Outstanding Master's Thesis of Hubei Province   2015
- National Scholarship Award   2013, 2018
- Foundation For Scholarly International Travel   2013, 2017
- Full Scholarship For Graduate Study

Student Awards — University of Electric Science and Technology of China (UESTC)
- Third Prize, People's Scholarship   2008–2010

PROFESSIONAL ACTIVITIES

Reviewer
- Computer Vision and Pattern Recognition(CVPR)
- IEEE Transactions on Pattern Analysis and Machine Intelligence(TPAMI)
- IEEE Transactions on Image Processing(TIP)
- IEEE Transactions on Geoscience and Remote Sensing(TGRS)
- IEEE Transactions on Neural Network and Learning Systems(TNNLS)
- IEEE Transactions on Circuits Systems and Video Technology (TCSVT)
- IEEE Transactions on Computational Imaging(TCI)
- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTAR)
- IEEE Geoscience and Remote Sensing Letters(GRSL)
- IEEE Access
- Asian Conference on Computer Vision(ACCV)
- Applied Mathematical Modelling(AMM)
- Applied Mathematics and Computation(AMC)
- Neurocomputing
- Journal of Visual Communication and Image Representation (JVCIR)
- International Journal of Remote Sensing (IJRS)
- Journal of Modern Optics (JMO)

Invited Talks
- Seminar on Mathematics and Image Processing in Wuhan University 2017
- Minisymposia on "Recent Advances in Tensor Based Data Processing" in SIAM Conference On Applied Linear Algebra 2018

REFERENCES

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