

# Fanghui Liu

## Education

- 2014 - **Ph.D. student**, in *Pattern Recognition and Intelligent System*, Institute of Image Processing Pattern Recognition, Shanghai Jiao Tong University, China.  
advisor: Prof. Jie Yang
- 2010 - 2014 **B.Sc.**, in *Control Science and Engineering*, School of Astronautics, Harbin Institute of Technology, China.

## Research Interests

Kernel Learning, Visual Tracking, and Bayesian Learning

## Selected Publications

### Journal Papers

- 2018 **F. Liu**, X. Huang, C. Gong, J. Yang, J. A.K. Suykens: *Indefinite Kernel Logistic Regression with Concave-inexact-convex Procedure*. IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), 2018.
- 2018 **F. Liu**, C. Gong, X. Huang, T. Zhou, J. Yang, and D. Tao: *Robust Visual Tracking Revisited: From Correlation Filter to Template Matching*. IEEE Transactions on Image Processing (**IEEE TIP**), 2018.
- 2018 C. Peng, **F. Liu**, J. Yang, and N. Kasabov: *Densely Connected Discriminative Correlation Filters for Visual Tracking* IEEE Signal Processing Letters (**IEEE SPL**), 2018.
- 2017 T. Zhou, **F. Liu**, H. Bhaskar, J. Yang, H. Zhang, and P. Cai: *Online discriminative dictionary learning for robust object tracking*. Neurocomputing, 2018.
- 2017 **F. Liu**, C. Gong, T. Zhou, K. Fu, X. He, and J. Yang: *Robust visual tracking via nonnegative multiple linear coding*. IEEE Transactions on Multimedia (**IEEE TMM**), 2017.
- 2017 **F. Liu**, T. Zhou, C. Gong, K. Fu, L. Bai and J. Yang: *Incremental inverse nonnegative local coordinate factorization for visual tracking*. IEEE Transactions on Circuits and Systems for Video Technology (**IEEE TCSVT**), 2017.
- 2017 **F. Liu**, T. Zhou, K. Fu and J. Yang: *Kernelized temporal locality learning for real-time visual tracking*. Pattern Recognition Letters (**PRL**), 2017.
- 2017 T. Zhou, **F. Liu**, H. Bhaskar and J. Yang: *Robust visual tracking via online discriminative and low-rank dictionary learning*. IEEE Transactions on Cybernetics (**IEEE TCYB**), 2017.
- 2017 T. Zhou, **F. Liu**, H. Bhaskar, J. Yang, H. Zhang and P. Cai: *Online Discriminative Dictionary Learning for Robust Object Tracking*. Neurocomputing, 2017.
- 2017 T. Zhou, H. Bhaskar, **F. Liu**, J. Yang and P. Cai: *Online learning and joint optimization of combined spatial-temporal models for robust visual tracking*. Neurocomputing, 2017.

- 2016 **F. Liu**, T. Zhou, K. Fu and J. Yang: *Robust visual tracking via constrained correlation filter coding*. Pattern Recognition Letters (**PRL**), 2016.
- 2016 **F. Liu**, T. Zhou, K. Fu and J. Yang: *Geometric affine transformation estimation via correlation filter for visual tracking*. Neurocomputing, 2016.
- 2016 T. Zhou, H. Bhaskar, **F. Liu** and J. Yang: *Graph regularized and locality-constrained coding for robust visual tracking*. IEEE Transactions on Circuits and Systems for Video Technology (**IEEE TCSVT**), 2016.
- 2016 C. Ge, K. Fu, **F. Liu**, L. Bai and J. Yang: *Co-saliency detection via inter and intra saliency propagation*. Signal Processing: Image Communication (SPIC), 2016.

#### Conference Papers

- 2018 **F. Liu**, X. Huang, C. Gong, J. Yang, and L. Li: *Nonlinear Pairwise Layer and Its Training for Kernel Learning*. The Thirty-Second AAAI Conference on Artificial Intelligence (**AAAI**), 2018.
- 2017 **F. Liu**, X. Huang and J. Yang: *Indefinite kernel logistic regression*. ACM Multimedia (**ACM MM**), 2017. (regular paper)
- 2017 **F. Liu**, X. Huang, C. Peng, J. Yang and N. Kasabov: *Robust kernel approximation for classification*. International Conference on Neural Information Processing (**ICONIP**), 2017.
- 2017 C. Peng, **F. Liu**, H. Yang, J. Yang and N. Kasabov: *Correlation filters with adaptive memories and fusion for visual tracking*. International Conference on Neural Information Processing (**ICONIP**), 2017.
- 2017 T. Zhou, **F. Liu**, H. Bhaskar, J. Yang and P. Cai: *Visual tracking via structural patch-based dictionary pair learning*. IEEE International Conference on Image Processing (**ICIP**), 2017.
- 2016 **F. Liu**, M. Liu, T. Zhou, Y. Qiao and J. Yang: *Incremental robust nonnegative matrix factorization for object tracking*. International Conference on Neural Information Processing (**ICONIP**), 2016.
- 2016 K. Gu, T. Zhou, **F. Liu**, J. Yang and Y. Qiao: *Correlation filter tracking via bootstrap learning*. IEEE International Conference on Image Processing (**ICIP**), 2016.
- 2016 **F. Liu**, T. Zhou, K. Fu, I. Gu, and J. Yang: *Robust visual tracking via inverse nonnegative matrix factorization*. IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2016.
- 2015 **F. Liu**, T. Zhou, I. Gu and J. Yang: *Visual tracking via nonnegative regularization multiple locality coding*. IEEE International Conference on Computer Vision Workshops (**ICCVW**), 2015.

#### Selected Honors, Awards and Fellowships

- 2018 "Outstanding Reviewer Award" by the PATTERN RECOGNITION Journal
- 2018 the Nurturing Foundation of "Excellent Doctorial Dissertation", awarded by Shanghai Jiao Tong University
- 2018 AAAI student travel award
- 2017 National Scholarship, awarded by Ministry of Education of the P.R.C
- 2016 National Scholarship, awarded by Ministry of Education of the P.R.C
- 2013 Meritorious Winner of American Mathematical Contest in Modeling (MCM)
- 2012 The First Prize of the Northeast China Mathematical Contest in Modeling

## Selected Talks

- 2018.2 **AAAI-18**, New Orleans, USA.  
2017.10 ACM Multimedia (**ACM MM'17**), Mountain view, USA.

## Academic Services

- Reviewer (18) of *IEEE Transactions on Image Processing*  
Reviewer (18) of *IEEE Transactions on Multimedia*  
Reviewer (16,17) of *IEEE Transactions on Circuits and Systems for Video Technology*  
Reviewer (17,18) of *Pattern Recognition*  
Reviewer (18) of *Neurocomputing*  
Reviewer (18) of *IEEE Signal Processing Letters*  
Reviewer (18) of *Pattern Recognition Letters*  
Reviewer (18) of *IEEE Access*  
Reviewer (17) of *IEEE International Conference on Data Mining*