

JING SHAO

Ph.D Candidate in Electronic Engineering, CUHK

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Summary

- Five-year research experience on computer vision, pattern recognition, and applications to visual surveillance, especially on crowd behavior analysis.
- Excellent record of academic performance with 9 articles published in top international conferences and journals.
- Fast learner, highly motivated researcher and partner with proven modeling and problem solving skills.

Research Interests

Video surveillance, crowded scene understanding, crowd behavior analysis, event/activity recognition, deep learning, feature extraction and description.

Education

- 2012–2016 **Ph.D Candidate**, *Department of Electronic Engineering, The Chinese University of Hong Kong*, Hong Kong, China.
- **Topic:** Scene-independent crowd understanding and crowd behavior analysis
 - **Supervisor:** Prof. Xiaogang Wang
- 2010–2012 **Exchange Student**, *Beijing International Center of Mathematical Research, Peking University*, Beijing, China.
- **Supervisor:** Prof. Guanxiang Wang
- 2009–2012 **M.S. Degree**, *Department of Mathematics, Faculty of Science, Hebei University of Technology*, Tianjin, China.
- **Master Thesis:** An intelligent fire-detection based on video surveillance process
 - **Supervisor:** Prof. Wei Guo
- 2005–2009 **B.S. Degree**, *Department of Mathematics, Faculty of Science, Hebei University of Technology*, Tianjin, China.
- **Bachelor Thesis:** Object recognition and localization based on color and texture
 - **Supervisor:** Prof. Wei Guo

Publications

JOURNALS

- [JS-3] **Crowded Scene Understanding by Deeply Learned Volumetric Slices.**
J. Shao, C. C. Loy, and X. Wang
submitted to IEEE Transaction on Circuits and Systems for Video Technology (TCSVT), under minor revision, 2016.
- [J-2] **Learning Scene-Independent Group Descriptors for Crowd Understanding.**
J. Shao, C. C. Loy, and X. Wang
to appear in IEEE Transaction on Circuits and Systems for Video Technology (TCSVT), pre-print, 2016.
- [J-1] **Fire detection based on video dynamic texture.**
J. Shao, G. Wang, and W. Guo
Journal of Image and Graphics (in Chinese), 2013.

CONFERENCES

- [C-7] **Slicing Convolutional Neural Network for Crowd Video Understanding.**
J. Shao, C. C. Loy, K. Kang, and X. Wang
in Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), **Spotlight**, 2016.
- [C-6] **Deeply Learned Attributes for Crowded Scene Understanding.**
J. Shao, K. Kang, C. C. Loy, and X. Wang
in Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), **Oral presentation**, **Acceptance rate: 3.3%**, 2015.
- [C-5] **Crowded Scene Understanding by Deeply Learned Attributes.**
J. Shao, K. Kang, C. C. Loy, and X. Wang
in Scene Understanding Workshop of IEEE Conference on Computer Vision and Pattern Recognition (CVPR Workshop), 2015.
- [C-4] **Scene-Independent Group Profiling in Crowd.**
J. Shao, C. C. Loy, and X. Wang
in Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), **Oral presentation**, **Acceptance rate: 5.7%**, 2014.
- [C-3] **Crowd Scene Understanding from Group Profiling.**
J. Shao, C. C. Loy, and X. Wang
in Scene Understanding Workshop of IEEE Conference on Computer Vision and Pattern Recognition (CVPR Workshop), 2014.
- [C-2] **An image-based fire detection method using color analysis.**
J. Shao, G. Wang, and W. Guo
in 2012 International Conference on Computer Science and Information Processing (CSIP), 2012.
- [C-1] **Moving-object Detection Based on Shadow Removal and Prospect Reconstruction.**
W. Wu, J. Shao, and W. Guo
in 2012 International Conference on Artificial Intelligence and Soft Computing, 2012.

Academic Experience

POSTGRADUATE COURSEWORK AND TEACHING ASSISTANT

2012–2015 Postgraduate (Ph.D) Coursework

[Devoted to a number of courses that benefit my academic career]

- CSCI 5070: Advanced Topics in Social Computing, Fall 2012.
 - SEEM 5520: Optimization I, Fall 2012.
 - IERG 6210: Advanced Topics in Information Processing, Fall 2012.
 - ENGG 5202: Pattern Recognition, Spring 2014.
 - ELEG 5040: Advanced Topics in Signal Processing (Introduction to Deep Learning)*, Spring 2015.
- *: courses taken without credits

2012–2015 Teaching Assistant

[Duties on weekly tutorials, lab exercises and office hours]

- ERG 2011: Advanced Engineering Mathematics, Fall 2012.
- ENGG 1110: Problem Solving by Java Programming, Spring 2013.
- ENGG 2420: Advanced Engineering Mathematics, Fall 2013.
- ENGG 1110: Problem Solving by Java Programming, Spring 2014.
- ENGG 2420: Complex Analysis and Differential Equations for Engineers, Fall 2014.
- ENGG 1110: Problem Solving by Java Programming, Spring 2015.

2009–2012 Postgraduate (Master) Coursework (selection)

[A bunch of courses inspired my passion on my academic career]

- Mathematical Principle of Digital Signal Processing, Fall 2009.
- Matrix Calculation, Fall 2009.
- Abstract Algebra, Spring 2010.

- Functional Analysis, Spring 2010.
- Wavelet Analysis, Spring 2010.
- Digital Image Processing, Spring 2010.

Grants, Honors and Awards

THE CHINESE UNIVERSITY OF HONG KONG

- 2012–2015 Postgraduate Studentship
- 2014–2015 Postgraduate Grants for Overseas Academic Activities
- 2013 Commendation for Outstanding Tutor

HEBEI UNIVERSITY OF TECHNOLOGY

- 2009 Excellent Bachelor Thesis Award
- 2007–2008 Outstanding Student Leader of Hebei University of Technology (Top 4%)
- 2007–2008 Excellent Student of Hebei University of Technology (Top 4%)
- 2006–2007 Scholarship of Hebei University of Technology (Rank 14/72)
- 2006–2007 Scholarship of P.R. China (Rank 4/26)

Technical Skills

- Computer languages: MATLAB, C/C++, Python, HTML/CSS, \LaTeX
- Operating Systems: Windows, Unix/Linux, Apple OS X
- Productivity Tools: MATLAB, vim, Sublime

Professional Services

- CVF student member, since 2014.
- Reviewer of
 - IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
 - IEEE International Conference on Computer Vision (ICCV)
 - European Conference on Computer Vision (ECCV)
 - IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
 - IEEE Transactions on Multimedia (TMM)
 - IEEE Transactions on Intelligent Transportation Systems (TITS)
 - Computer Vision and Image Understanding (CVIU)