

## Chunlei Peng, Ph.D. Candidate

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CONTACT INFORMATION	VIPS Lab State Key Laboratory of ISN School of Electronic Engineering Xidian University, No. 2 South Taibai Road Xi'an, China, 710071	Phone: +86 15829916976 Email: <a href="mailto:clp.xidian@gmail.com">clp.xidian@gmail.com</a> Homepage: <a href="http://clpeng.github.io/">http://clpeng.github.io/</a>
RESEARCH INTERESTS	Machine learning, computer vision, image processing, and pattern recognition with applications in <b>heterogeneous image transformation</b> (e.g. face sketch-photo synthesis) and <b>heterogeneous face recognition</b> (e.g. matching viewed/composite/forensic sketches to face photos, and matching near-infrared/thermal-infrared images to visible light face images).	
EDUCATION	<p>Sep. 2012 - Present <b>Ph.D. Candidate</b> in Intelligent Information Processing School of Electronic Engineering Xidian University, Xi'an, China Adviser: <a href="#">Xinbo Gao</a></p> <p>Sep. 2008 - July 2012 <b>Bachelor</b> in Electrical and Information Engineering School of Electronic Engineering Xidian University, Xi'an, China Undergraduate thesis: "Adaptive Markov Random Field based Face Sketch-Photo Synthesis" (<i>Outstanding undergraduate thesis</i>) Rank: 6/543</p>	
RESEARCH EXPERIENCES	<ul style="list-style-type: none"><li>• <b>Multimedia Information Processing and Analysis</b>, supported by the National Natural Science Foundation of China (Grant No. 61125204), participant, 2012.01-2015.12</li><li>• <b>Generalized Sparse Representation based Heterogeneous Face Image Transformation and Quality Assessment</b>, supported by National Natural Science Foundation of China (Grant No.61172146), participant, 2012.01-2015.12</li><li>• <b>Heterogeneous Image Transformation and Quality Assessment</b>, supported by the Fundamental Research Funds for the Central Universities (Grant No. JB149901), participant, 2014.01-2015.12</li><li>• <b>On Cross Media Heterogeneous Image Transformation and Recognition based on Big Data</b>, Transverse Research Projects, participant, 2013.11-2015.04</li><li>• <b>Transductive Learning based Heterogeneous Face Image Transformation from An Arbitrary Profile</b>, supported by the Fundamental Research Funds for the Central Universities (Grant No. K50513100009), participant, 2013.01-2013.12</li></ul>	
PUBLICATIONS	<p><b>Journals</b></p> <p>[1] <b>Chunlei Peng</b>, Xinbo Gao, Nannan Wang, Dacheng Tao, Xuelong Li, and Jie Li, "Multiple Representations based Face Sketch-Photo Synthesis," <i>IEEE Transactions on Neural Networks and Learning Systems (IEEE TNNLS)</i>,</p>	

Accepted, 2015. (We adaptively learn the combination weights of multiple representations, and the synthesis process is robust to different lighting and backgrounds in real-world forensic sketches and mug shots.)

- [2] **Chunlei Peng**, Xinbo Gao, Nannan Wang, and Jie Li, "Graphical Representation for Heterogeneous Face Recognition," *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, Under Review, 2015. (Graphical representations are obtained through Markov networks, with spatial information firstly taken into consideration. Leading performance is achieved on multiple heterogeneous face recognition scenarios.)
- [3] **Chunlei Peng**, Xinbo Gao, Nannan Wang, and Jie Li, "Discriminative Heterogeneous Face Recognition," *IEEE Transactions on Image Processing (IEEE TIP)*, Under Review, 2015. (Adaptive sparse graphical representations are obtained. We further develop a spatial partition-based discriminant analysis framework including row-based, column-based, and learning-based strategies.)
- [4] **Chunlei Peng**, Xinbo Gao, Nannan Wang, Jie Li, "Superpixel-based Face Sketch-Photo Synthesis," *IEEE Transactions on Circuits and Systems for Video Technology (IEEE TCSVT)*, Under Review, 2015. (Superpixel is firstly introduced into face sketch-photo synthesis scenario, which can take inherent face structure into consideration.)
- [5] Xinbo Gao, Nannan Wang, **Chunlei Peng**, and Chengyuan Li, "Triple Space Fusion based Face Image Recognition," *Pattern Recognition and Artificial Intelligence*, Accepted, 2015. (Invited, in Chinese) (Review the recent advances on heterogeneous face recognition based on triple space fusion, i.e. the fusion of the physical space, the information space, and the cognitive space.)

#### Conference

- [1] **Chunlei Peng**, Jie Li, Nannan Wang, and Xinbo Gao, "Multi-View Representation based Face Sketch Synthesis," *ACM International Conference on Internet Multimedia Computing and Service (ICIMCS)*, 2014, pp. 307-312.

#### Book Chapter

- [1] Nannan Wang, Shengchuan Zhang, **Chunlei Peng**, Jie Li, and Xinbo Gao, "Face Sketch Recognition via Data-driven Synthesis," *Biometrics in Forensic Science*, Under Review, 2015. (Invited)

#### PATENTS

- [1] Xinbo Gao, **Chunlei Peng**, et al., "Forensic Sketch based Face Recognition," *Chinese Patent Pending*, No. 201410166300.7, 2014.
- [2] Jie Li, **Chunlei Peng**, et al., "Multiple Features Fusion based Image Synthesis," *Chinese Patent Pending*, No. 201410165469.0, 2014.
- [3] Xinbo Gao, **Chunlei Peng**, et al., "Graphical Representation based Face Sketch-Photo Recognition," *Chinese Patent Pending*, 2015.
- [4] Xinbo Gao, **Chunlei Peng**, et al., "Superpixel based Face Sketch Synthesis," *Chinese Patent Pending*, 2015.

- [5] Xinbo Gao, Wenjun Ren, Nannan Wang, Jie Li, **Chunlei Peng**, et al., "Image Quality Assessment based Synthesized Face Image Recognition," *Chinese Patent Pending*, No. 201410133868.9, 2014.
- [6] Xinbo Gao, Yanting Hu, Nannan Wang, Jie Li, Wenjun Ren, **Chunlei Peng**, et al., "Cascade Linear Regression based Image Super-Resolution", *Chinese Patent Pending*, No. 201410766467.7, 2014.
- [7] Jie Li, Mingjin Zhang, Xinbo Gao, Nannan Wang, Shengchuan Zhang, **Chunlei Peng**, et al., "Support Vector Machine based Sketch Style Classification," *Chinese Patent Pending*, No. 201410330945.X, 2014.
- [8] Xinbo Gao, Shengchuan Zhang, Nannan Wang, Jie Li, Mingjin Zhang, Yanting Hu, **Chunlei Peng**, and Wenjun Ren, "Greedy Search based Face Sketch Synthesis," *Chinese Patent Pending*, No. 201410818175.3, 2014.
- [9] Xinbo Gao, Nannan Wang, Wenjun Ren, Jie Li, Yanting Hu, Shengchuan Zhang, Mingjin Zhang, and **Chunlei Peng**, "Feature Similarity based Synthesized Face Sketch Quality Assessment," *Chinese Patent Pending*, No. 201410771613.5, 2014.
- [10] Nannan Wang, Xinbo Gao, Shengchuan Zhang, Jie Li, Feng Wang, Xinye Yu, Mingjin Zhang, **Chunlei Peng**, and Yanting Hu, "One Target Sketch based Face Sketch Synthesis," *Chinese Patent Pending*, No. 201510109196.2, 2015.
- [11] Nannan Wang, Xinbo Gao, Shengchuan Zhang, Jie Li, Feng Wang, Xinye Yu, Mingjin Zhang, **Chunlei Peng**, and Yanting Hu, "Single Photo-Sketch Pair based Face Sketch Synthesis," *Chinese Patent Pending*, No. 201510109027.9, 2015.

AWARDS	Outstanding Graduate Student, Xidian University	2014
	First-Class Graduate Scholarship for PhD candidate, Xidian University	2014
	Second-Class Graduate Scholarship for PhD candidate, Xidian University	2013
	Outstanding Undergraduate Thesis, Xidian University	2012
	Third Prize in ACM-ICPC, Xidian University	2011
	Outstanding Student, Xidian University	2009

SKILLS	Proficient in Matlab, C/C++, Qt, OpenCV, Latex; Familiar with Python, Java
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