

Chunlei Peng, Ph.D. Candidate

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| CONTACT INFORMATION | <p>VIPS Lab State Key Laboratory of ISN School of Electronic Engineering Xidian University, No. 2 South Taibai Road Xi'an, China, 710071</p> | <p>Phone: +86 15829916976 Email: clp.xidian@gmail.com Homepage: http://chunleipeng.com/</p> |
| RESEARCH INTERESTS | Machine learning, computer vision, image processing, and pattern recognition with applications to heterogeneous image transformation (e.g. face sketch-photo synthesis) and heterogeneous face recognition (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 Ph.D. Candidate in Intelligent Information Processing School of Electronic Engineering Xidian University, Xi'an, China Adviser: Xinbo Gao</p> <p>Sep. 2008 - July 2012 Bachelor in Electronic 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">• Multimedia Information Processing and Analysis, supported by the National Natural Science Foundation of China (Grant No. 61125204), participant, 2012.01-2015.12• Generalized Sparse Representation based Heterogeneous Face Image Transformation and Quality Assessment, supported by National Natural Science Foundation of China (Grant No.61172146), participant, 2012.01-2015.12• Heterogeneous Image Transformation and Quality Assessment, supported by the Fundamental Research Funds for the Central Universities (Grant No. JB149901), participant, 2014.01-2015.12• On Cross Media Heterogeneous Image Transformation and Recognition based on Big Data, Transverse Research Projects, participant, 2013.11-2015.04• Transductive Learning based Heterogeneous Face Image Transformation from An Arbitrary Profile, supported by the Fundamental Research Funds for the Central Universities (Grant No. K50513100009), participant, 2013.01-2013.12 | |
| PUBLICATIONS | <p>Journals</p> <p>[1] Chunlei Peng, Xinbo Gao, Nannan Wang, and Jie Li, "Graphical Representation for Heterogeneous Face Recognition," <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)</i>, Accepted, 2016.</p> | |

(Graphical representations are obtained through Markov networks, with spatial information taken into consideration. Leading performance is achieved on multiple heterogeneous face recognition scenarios.)

- [2] **Chunlei Peng**, Xinbo Gao, Nannan Wang, Dacheng Tao, Xuelong Li, and Jie Li, "Multiple Representations based Face Sketch-Photo Synthesis," *IEEE Transactions on Neural Networks and Learning Systems (IEEE TNNLS)*, Accepted, 2015. *(We adaptively learn the combination weights of multiple representations, and the synthesis process is robust to different lighting conditions and backgrounds on real-world forensic sketches and mug shots.)*
- [3] **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)*, Accepted, 2015. *(Superpixel is firstly introduced into face sketch-photo synthesis scenario, which can take inherent face structure into consideration.)*
- [4] **Chunlei Peng**, Xinbo Gao, Nannan Wang, and Jie Li, "Sparse Graphical Representation based Discriminant Analysis for Heterogeneous Face Recognition," *arXiv preprint arXiv:1607.00137*, 2016. *(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.)*
- [5] Xinbo Gao, Nannan Wang, **Chunlei Peng**, and Chengyuan Li, "Triple Space Fusion based Face Image Recognition," *Pattern Recognition and Artificial Intelligence*, vol. 28, no. 9, pp. 811-821, 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**, Nannan Wang, Xinbo Gao, and Jie Li, "Face Recognition from Multiple Stylistic Sketches: Scenarios, Datasets, and Evaluation," *European Conference on Computer Vision workshop on Visual Analysis of Sketches*, 2016. **(Oral)**
- [2] **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.
- [3] Xinye Yu, Nannan Wang, **Chunlei Peng**, Jie Li, and Xinbo Gao, "Adaptive Representation-based Face Sketch Synthesis," *International Conference on Intelligence Science and Big Data Engineering (IScIDE)*, Accepted, 2016.

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*, Springer, 2015.

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*, No. 201510397326.7, 2015.
- [4] Xinbo Gao, **Chunlei Peng**, et al., "Superpixel based Face Sketch Synthesis," *Chinese Patent Pending*, No. 201510395890.5, 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.

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| AWARDS | National Scholarship from Ministry of Education | 2015 |
| | 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 |

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| PROFESSIONAL ACTIVITY | Review for Neurocomputing (Elsevier) from 2015; |
| | Review for 27th IEEE International Conference on Tools with Artificial Intelligence (ICTAI) , Vietri sul Mare, Italy, November, 2015. |

SKILLS

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