Hao ZHOU

CONTACT INFORMATION	Room 4420, A.V. William Building Dept. of Computer Science The University of Maryland - College Park	*Phone:* 202−445−5982 *E-mail:* hzhou@cs.umd.edu *Page:* www.umiacs.umd.edu/∼hzhou

EDUCATION

The University of Maryland - College Park (UMD) **Sep. 2013 - present**
- PhD candidate Dept. of Computer Science
- Adviser: Prof. David W. Jacobs
- Area of Study: Computer Vision

The University of Hong Kong (HKU) **Sep. 2010 - Nov. 2012**
- M.Phil. Dept. of Computer Science
- Adviser: Dr. Kwan-Yee K. Wong
- Area of Study: Computer Vision

The University of Science and Technology of China (USTC) **Sep. 2006 - Jun. 2010**
- B.Eng Dept. of Electronic Engineering and Information Science

RESEARCH INTERESTS

Computer Vision: lighting estimation from faces and natural indoor scene; network compression.

SELECTED PROJECTS

Compressing deep neural network
- Applied group sparsity and low-rank constraints while training deep network.
- Proposed to use Forward-Backward Splitting method for training deep network with constraints.
- Compressed 70% parameters of AlexNet without performance loss.

Intrinsic image decomposition of a natural scene
- First work to fully decompose an RGB image of a natural scene into normal, albedo and lighting.
- Proposed a novel global and local spherical harmonics model to represent lighting.
- Proposed a novel non-negative constraint to achieve physically meaningful lighting.
- Achieved state-of-the-art results for albedo estimation.

Lighting estimation from faces
- Proposed to use synthetic data to help regress lighting from real faces.
- Closing the domain gap between synthetic data and real data using adversarial loss.
- Proposed a novel evaluation metric for lighting estimation from faces.

SELECTED PUBLICATIONS

1. **Hao Zhou***, Jin Sun*, Yaser Yacoob, David W Jacobs. Label Denoising Adversarial Network (LDAN) for Inverse Lighting of Face Images. IEEE *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018. (spotlight, * means equal contribution)

2. Hui Ding, **Hao Zhou**, Shaohua Kevin Zhou, Rama Chellappa. A Deep Cascade Network for Unaligned Face Attribute Classification. *Association for the Advancement of Artificial Intelligence (AAAI)*, 2018. (spotlight)

3. Soumyadip Sengupta, **Hao Zhou**, Walter Forkel, Ronen Basri, Tom Goldstein, David W Jacobs. Solving Uncalibrated Photometric Stereo Using Fewer Images by Jointly Optimizing Low-rank Matrix Completion and Integrability. *Journal of Mathematical Imaging and Vision (JMIV)*, 2018.

4. **Hao Zhou**, Jose M. Alvarez, Fatih Porikli. Less is More: Towards Compact CNNs. *European Conference on Computer Vision (ECCV)*, 2016. (Spotlight)

5. **Hao Zhou**, Torsten Sattle, David W. Jacobs. Evaluating Local Features for Day-Night Matching. *European Conference on Computer Vision workshop (ECCVW)* , 2016.

6. **Hao Zhou**, Zhanghui Kuang, Kwan-Yee K. Wong. Markov Weight Fields for Face Sketch Synthesis. IEEE *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2012.

7. Zhanghui Kuang, Dirk Schnieders, **Hao Zhou**, Kwan-Yee K. Wong, Yizhou Yu, Bo Peng. Learning Image-Specific Parameters for Interactive Segmentation. IEEE *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2012.

RESEARCH EXPERIENCE	**Intern at Adobe Research** **May - Aug. 2018**

RESEARCH EXPERIENCE

Intern at Adobe Research   **May - Aug. 2018**
- Mentor: Sunil Hadap
- Topic: Deep portrait relighting.

Intern at Media Analytics group NEC Labs America   **May - Aug. 2017**
- Mentor: Quoc-Huy Tran and Manmohan Chandraker
- Topic: Learning affordance correspondence through human object interaction.

Intern at National ICT (NICTA) Australia   **Jul. - Oct. 2015**
- Mentor: Jose M. Alvarez and Fatih Porikli
- Topic: Compressing deep neural networks.

Research Assistant at The University of Hong Kong   **Nov. 2012 - Jul. 2013**
- Adviser: Dr. Kwan-Yee K. Wong
- Topic: Face sketch synthesis.

REFEREE

Journal: IEEE Transactions on Signal Processing. IEEE Transactions on Image Porcessing.
conference: ICCV, CVPR, WACV, ACCV

TEACHING

Teaching Assistant, Dept. of Computer Science, UMD
- CMSC733 Computer Processing of Pictorial Information (Prof. David W. Jacobs)   Fall 2014
- CMSC426 Image Processing (Prof. David W. Jacobs)   Spring 2014
- CMSC131 Object-Oriented Programming I (Dr. Fawzi Emad and Dr. Evan Golub).   Fall 2013

Teaching Assistant, Dept. of Computer Science, HKU
- CSIS0259 Principles of Programming Languages (Dr. C.F. Chong).   Fall 2011
- CSIS0234A Computer and Communication Networks (Dr. T.C. Tam).   Spring 2011

HONORS & AWARDS

Dean's Fellowship, Dept. of CS, UMD	**2013, 2014**
Guanghua Scholarship	**2009**
Weining Gong Scholarship	**2008**
Outstanding Student Scholarship of USTC, Grade 1	**2007**

SKILLS

Main Developing Language: `Python`.
Other Languages: `Matlab`, `C/C++`.
Tools: `OpenCV`, `Pytorch`.