

Guanying Chen

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RESEARCH INTERESTS

- Computer vision and machine learning. Specifically, learning based methods for 3D reconstruction, physics-based vision, environment matting, etc.

EDUCATION

- **The University of Hong Kong (HKU)** Hong Kong SAR, China
Ph.D. Candidate, Computer Science Sep 2016 - Present
 - Supervisor: Prof. Kenneth K. Y. Wong
- **Sun Yat-sen University (SYSU)** Guangzhou, China
B.Eng. Automation Sep 2012 - Jun 2016
 - GPA: 92/100 (4.0/4.0); Rank: 1/58

RESEARCH EXPERIENCE

- **Matsushita Lab, Osaka University** Osaka, Japan
Research Intern Jun 2019 - Present
 - Project: Learning Based Photometric Stereo
 - Supervisor: Prof. Yasuyuki Matsushita
- **SenseTime Group Limited** Shenzhen, China
Computer Vision Intern Researcher Jun 2016 - Aug 2016
 - Project: Proposal-Based Indoor Object Detection
 - In this project, we developed an indoor object detector based on Faster R-CNN and Online Hard Example Mining (OHEM). To train our model, we scraped indoor images from search engines and organized people to label their ground truth. At the end of the internship, the trained object detector was encapsulated in an Android SDK.
 - Mentor: Dr. Yu Lu and Dr. Wei Zhang
- **HCP Lab, Sun Yat-sen University** Guangzhou, China
Undergraduate Research Assistant Oct 2015 - May 2016
 - Project: Semantic Image Segmentation with Deep Neural Network
 - In this project, we proposed a novel deep learning framework for semantic image segmentation by simultaneously utilizing the powerful feature extraction capacity of CNN and context modeling ability of LSTM. The proposed model achieved promising results on the Pascal VOC benchmark.
 - Supervisor: Prof. Liang Lin
- **Department of Computer Science, The University of Hong Kong** Hong Kong SAR, China
Summer Research Intern Jul 2015 - Aug 2015
 - Project: Scene Text Recognition with Deep Convolutional Network
 - In this project, we reproduced the state-of-the-art CNN based text recognition algorithm based on Caffe. Our model was trained on synthetic data and validated on the challenging real data.
 - Supervisor: Prof. Kenneth K. Y. Wong

PUBLICATIONS

1. **Guanying Chen***, Kai Han*, Kwan-Yee K. Wong, *Learning Transparent Object Matting*, International Journal of Computer Vision (**IJCV**), 2019. (* equal contribution).
2. **Guanying Chen**, Kai Han, Boxin Shi, Yasuyuki Matsushita, Kwan-Yee K. Wong, *Self-calibrating Deep Photometric Stereo Networks*, IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), Long Beach, USA, 2019 (**Oral Presentation**).
3. **Guanying Chen**, Kai Han, Kwan-Yee K. Wong, *PS-FCN: A Flexible Learning Framework for Photometric Stereo*, European Conference on Computer Vision (**ECCV**), Munich, Germany, 2018.
4. **Guanying Chen***, Kai Han*, Kwan-Yee K. Wong, *TOM-Net: Learning Transparent Object Matting from a Single Image*, IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), Salt Lake City, USA, 2018 (**Spotlight Presentation**). (* equal contribution).

TEACHING EXPERIENCE

- **Department of Computer Science, The University of Hong Kong**

- Teaching Assistant

- COMP7404 Computational Intelligence and Machine Learning

2016 - 2017 Fall

SKILLS

- Programming Language: Python, C/C++, Matlab, Lua, Shell, C#
- Programming Environment: Linux + Vim + Tmux + Git + Makefile + Pdb/Gdb + SSH
- Tools: PyTorch, Torch7, Caffe, Mitsuba, POV-Ray, OpenCV, Libsvm, Meshlab, L^AT_EX, etc
- Language: English (working proficiency), Mandarin and Cantonese (native speaker)

PROFESSIONAL SERVICES

- Conference Reviewer: CVPR 2019, ICCV 2019, AAAI 2020
- Journal Reviewer: Pattern Recognition

HONORS AND AWARDS

- M. Braun Postgraduate Prizes HKU (2018-2019)
- Hong Kong and China Gas Company Limited Postgraduate Prize HKU (2018-2019)
- University Postgraduate Fellowship (UPF) HKU (2016-2020)
- Outstanding Graduate SYSU (2016)
- Outstanding Student Scholarship SYSU (2013, 2014, 2015)