Yu Zhang, Ph.D.

Personal Information

Date of birth: April 26, 1990
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Work Experience

SenseTime Research, Beijing

Senior Researcher, July 2018 - Present
- ◇ 3D image/video synthesis via deep learning and stereo geometry

Robot and Automonous Driving Lab, Baidu Research, Beijing

Research Intern, March 2018 - July 2018
- ◇ Semantic understanding of highway road scenes

Education

Beihang University, Beijing

Ph.D. Candidate, Computer Science, Sept. 2012 - July 2018, Supervisor: Prof. Qinping Zhao
- ◇ Image/Video object segmentation with various levels of supervisions
- ◇ And-or graph based representation and inference for videos
- ◇ Visual saliency analysis; image co-segmentation; 3D scene understanding

B.Eng., Computer Science and Engineering, Sept. 2008 - July 2012, GPA - 3.81/4.0

About

Currently I work as a senior researcher at SenseTime Group Limited. I am broadly interested in solving real-world visual understanding and processing problems with principled learning/optimization frameworks. At SenseTime, I am engaged in combining 3D geometry and vision/learning techniques to make medias captured by daily devices easier to be understood, manipulated, and created.

I received my Ph.D. degree in 2018 from Beihang University, under the supervision of Prof. Qinping Zhao and Prof. Bin Zhou. I also work closely with Prof. Jia Li. During my Ph.D. years, I am interested in developing learning and optimization frameworks for object segmentation in images/videos. I received my B.Eng degree from Beihang University at 2012.

Selected Publications

Yu Zhang, Dongqing Zou, Jimmy S. Ren, Zhe Jiang, Xiaohao Chen. Structure-Preserving Stereoscopic View Synthesis with Multiscale Adversarial Correlation Matching. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019.*

Feixiang Lu, Bin Zhou, **Yu Zhang**, Qinping Zhao. Realtime 3D Scene Reconstruction with Dynamically Moving Object using a Single Depth Camera. *Computer Graphics International (CGI), 2018.* (***Best Paper Award***)

Feixiang Lu, Bin Zhou, Feng Lu, **Yu Zhang**, Xiaowu Chen, Qinping Zhao. Reconstructing Non-rigid Object with Large Movement using a Single Depth Camera. *Computer Aided Geometric Design (CAGD), 2018*

Yu Zhang, Xiaowu Chen, Jia Li, Wei Teng, Haokun Song. Exploring Weakly Labeled Images for Video Object Segmentation with Submodular Proposal Selection. *IEEE Transactions on Image Processing (TIP), 2018.*

Changqun Xia, Jia Li, Xiaowu Chen, Anlin Zheng, **Yu Zhang**. What is and What is not a Salient Object? Learning Salient Object Detector by Ensembling Linear Exemplar Regressors. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017.* (***Spotlight, 8% acceptance***)

Yu Zhang, Xiaowu Chen, Jia Li, Chen Wang, Changqun Xia. Semantic Object Segmentation in Tagged Videos via Detection. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2017.*

Yafei Song, Xiaowu Chen, Xiaogang Wang, **Yu Zhang**, Jia Li. 6-DOF Image Localization from Massive Geo-tagged Reference Images. *IEEE Transactions on Multimedia (TMM), 2016.*

Wei Teng*, **Yu Zhang* (Equally Contributed)**, Xiaowu Chen, Jia Li, Zhiqiang He. Local Shape Transfer for Image Co-segmentation. *British Machine Vision Conference (BMVC), 2016.* (***Oral, 10% acceptance***)

Yu Zhang, Xiaowu Chen, Liang Lin, Changqun Xia, High-Level Representation Sketch for Video Event Retrieval. *SCIENCE CHINA Information Sciences, 2016.*

Yafei Song, Xiaowu Chen, Xiaogang Wang, **Yu Zhang**, Jia Li. Fast Estimation of Relative Poses for 6-DOF Image Localization. *IEEE International Conference on Multimedia Big Data (BigMM), 2015.* (***Best Paper Award***)

Han Zhang, Xiaowu Chen, **Yu Zhang**, Jia Li, Qing Li, Xiaogang Wang. Cuboids Detection in RGB-D Images via Maximum Weighted Clique. *International Conference on Multimedia & Expo (ICME), 2015.*

Yu Zhang, Xiaowu Chen, Jia Li, Chen Wang, Changqun Xia. Semantic Object Segmentation via Detection in Weakly Labeled Video. *International Conference on Computer Vision and Pattern Recognition (CVPR), 2015.* (***Oral, 3.3% acceptance***)

Qing Li, Xiaowu Chen, Yafei Song, **Yu Zhang**. Geodesic Propagation for Semantic Labeling. *IEEE Transactions on Image Processing (TIP), 2014.*

Kai Jiang, Xiaowu Chen, **Yu Zhang**, Qinping Zhao. Video Event Representation and Inference on And-Or Graph. *Computer Animation and Virtual Worlds, 2012.*

Aewards & Certificates

- Reviewer for TIP, TMM, ACCV
- The Academic Excellence Foundation of BUAA for PhD Students, Beihang University, 2017
- The National Graduate Scholarship, 2015
- The Graduate Innovation Award, School of Computer Science, Beihang University, 2014
- The Changzhao Qian & Xingyuan Shen Scholarship (1st Prize), Beihang University, 2011
- The Excellent Student Award, Beihang University, 2010 - 2011
- The Undergraduate Mathematical Contest (1st Prize, Rank 1st), Beihang University, 2009
- The National Undergraduate Mathematical Contest (Second Prize in Beijing Region), 2009

Professional Skills

- Specialize in machine learning for computer vision, and graph/numerical optimization
- Familiar with Linux/Windows, Python/Matlab/C++, OpenCV/Qt
- Familiar with deep learning libraries Tensorflow/Pytorch/Caffe/MXNet
- Good at scentific writing & presentation
- Fluent professional English

Interests

- Chinese Calligraphy Level 4
- Chinese Electronic Organ Level 6