Zhile Ren

CONTACT
INFORMATION

Brown University
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RESEARCH
INTERESTS

Computer vision, with applications in 3D visual scene understanding.
Computer graphics, with applications in image manipulation/synthesis.

EDUCATION

Brown University, Providence, RI

Ph.D. Candidate, Computer Science Deaprtment, Sept 2013 – present

- Advisor: Erik Sudderth

Zhejiang University, Hangzhou, China

B.S. in Statistics, Department of Mathematics, Aug, 2009 – Jun, 2013

PUBLICATIONS

[1] Zhile Ren, Erik Sudderth, **Three-Dimensional Object Detection and Layout Prediction using Clouds of Oriented Gradients**, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016 (**oral**)

[2] Lingzhu Xiang, Zhile Ren, Mengrui Ni, Chad Jenkins **Robust Graph SLAM in Dynamic Environments with Moving Landmarks**, International Conference on Intelligent Robots and Systems (**IROS**), 2015

[3] Pierre-Yves Laffont, Zhile Ren, Xiaofeng Tao, Chao Qian, James Hays **Transient Attributes for High-Level Understanding and Editing of Outdoor Scenes**, ACM Transactions on Graphics (**SIGGRAPH**), 2014

[4] Zhile Ren, Greg Shakhnarovich, **Image Segmentation by Cascaded Region Agglomeration**, IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2013

RESEARCH
EXPERIENCE

Brown University, Providence, RI

Research Assistant with **Prof. Erik Sudderth**   **Feb, 2014 – Present**

- 3D object detection and layout prediction with RGB-Depth camera. (**CVPR** 2016)

Research Assistant with **Prof. James Hays**   **Sept, 2013 – Feb, 2014**

- Attribute-based image editing algorithm. (**SIGGRAPH** 2014)

NVIDIA Research, Mobile Visual Computing group, Westford, MA   **June – Sept, 2016**

Research Intern with **Dr. Deqing Sun** and **Dr. Jan Kautz**

- Semantic scene flow prediction for autonomous vehicles. (Paper in submission)

Microsoft Research, Interactive Visual Media group, Redmond, WA   **June – Sept, 2015**

Research Intern with **Dr. Sing Bing Kang** and **Dr. Johannes Kopf**

- Image completion and shadow removal. (Paper in submission)

National Laboratory of Pattern Recognition, Beijing, China   **March – Jul, 2013**

Research Intern with **Prof. Huai-Yu Wu**

- Agglomerative clustering algorithms for 3D mesh segmentation.

Toyota Technological Institute at Chicago (TTIC), Chicago, IL   **Jul – Oct, 2012**

Research Intern with **Prof. Greg Shakhnarovich**
- Agglomerative clustering algorithms for natural image segmentation. (**CVPR** 2013)

INVITED TALKS   Cascaded Model for Three-Dimensional Scene Understanding
- Image and Video Computing (IVC) Seminar, Boston University, December, 2016

Semantic Scene Flow Prediction for Autonomous Vehicles.
- New England Computer Vision Workshop, Boston University, November, 2016

Three-Dimensional Object Detection and Layout Prediction using Clouds of Oriented Gradients
- IEEE Conference on Computer Vision and Pattern Recognition, Las Vegas, Jun, 2016
- Machine Learning Lunch Seminar at NVIDIA Research, Westford MA, June, 2016
- Data-driven Computer Vision (CSCI 2951T), Brown University, March, 2016
- New England Computer Vision Workshop, UMass Amherst, November, 2015

Image Segmentation by Cascaded Region Agglomeration
- Midwest Vision Workshop, UIUC, Sept, 2012

PROFESSIONAL SERVICES   **Journal Reviewer**
- Computer Vision and Image Understanding (CVIU), 2014
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2016

Conference Reviewer
- IEEE International Conference on Computer Vision (ICCV), 2015
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016-17
- European Conference on Computer Vision (ECCV), 2016
- Asian Conference on Computer Vision (ACCV), 2016

Departmental Service
- Organizer of Brown University *Machine Learning Reading Group* (MLRG), 2015 – present

TEACHING EXPERIENCE   **Teaching Assistant**
- CSCI2420: Probablistic Graphical Models, Brown University, Fall 2016.
- CSCI1450: Introduction to Probability and Computing, Brown University, Spring 2015.

SKILLS
- Proficient: C/C++, Matlab
- Familiar: Python, OpenCV

MEDIA COVERAGE   Transform Your Photos with a Magic Word. In *IEEE Spectrum*. Oct 2014.

Don't Like the Weather in Your Photos? Now You Can Change It. In *NBC News*. Aug, 2014

Photo editing algorithm changes weather, seasons automatically. In *Brown News*. Aug, 2014