

# ZHIZHONG LI

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## EDUCATION

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- University of Illinois at Urbana-Champaign** *Expected in May 2020*  
Ph. D. student in Computer Science  
Overall GPA: 4.00/4.00
- Carnegie Mellon University, Pittsburgh** *Aug. 2013 - Dec. 2014*  
Master of Science in Robotics  
Cumulative GPA: 4.13/4.33
- Tsinghua University, Beijing** *Aug. 2009 - Jul. 2013*  
Bachelor of Science in Automation  
Cumulative GPA: 91.52/100 (Top 3%)

## PUBLICATION

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- Zhizhong Li, and Derek Hoiem. Learning without forgetting. In ECCV, 2016, spotlight presentation.
- Zhizhong Li, and Daniel Huber. Domain adaptation for structure recognition in different building styles. In 3D Vision (3DV), 2015.

## RESEARCH EXPERIENCE

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- Learning without Forgetting** *Sept. 2015 - present*  
*Graduate Researcher, with Dr. Derek Hoiem* *Vision group, UIUC*
- Project aims at integrating new capabilities into a Convolutional Neural Network while retaining the old capabilities without access to their original training data
  - Designed a novel Learning without Forgetting method that outperforms the commonly used fine-tuning technique on both new and old tasks
  - Proposed method performs similarly to multi-task learning which requires data we assume inaccessible
- Complete 3D RGBD Scene Parsing** *Sept. 2015 - present*  
*Graduate Researcher, with Dr. Derek Hoiem* *Vision group, UIUC*
- Project aims at generating very detailed and complete 3D models from RGBD images of cluttered scenes, without being limited to known categories and templates (ongoing project)
  - Developed Convolutional Neural Networks for object retrieval and classification
- The Aerial Robotic Infrastructure Analyst (ARIA) Project** *Oct. 2013 - May 2015*  
*Graduate Researcher, with Dr. Daniel Huber* *3DVIS group, CMU*
- Project aims at constructing an aerial robot to rapidly create comprehensive, high-resolution, and semantically rich 3D models of infrastructure, in order to aid infrastructure inspection
  - Proposed a two-step method to choose and adapt the best matching building style from a style library. It boosts the performance compared to all baselines
  - Developed a synthetic point cloud scanner for 3D models
- Matchstick Man Animation Generation via Body Parts Recognition** *Jul. 2012 - Jul. 2013*  
*Undergraduate Researcher, with Dr. Changshui Zhang* *BigEye Lab, Tsinghua Univ.*

- Project aimed at developing a software package producing simple matchstick man animations from user-drawn figures
- Designed a Bayesian Network to simultaneously detect and recognize body parts of stick figures
- Applied affine transformation on recognized body parts to render matchstick man animation

**RTLinux based Open Architecture Robot Controlling System**      Oct. 2010 - Oct. 2011  
*National Innovation Research Project for Undergraduates, with Dr. Zongying Shi      Tsinghua Univ.*

- Project aimed at developing a platform on RTLinux for further experiments with a 6-DOF robot
- Extended the controlling system by enabling moving in arbitrary continuous trajectories
- Extended the API to enable customized control algorithm
- Developed a robot calligraphy application based on the platform

## SELECTED HONORS

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Comprehensive Scholarship, Tsinghua University (5 out of 149)	<i>Oct. 2011</i>
Challenge Cup at Tsinghua University, <i>Special Prize</i> (Top 1%)	<i>Apr. 2011</i>
Electronic Design Competition in Tsinghua University, <i>Second Prize</i> (4th of ~ 100 teams)	<i>Dec. 2010</i>
The NoviCe Programming Contest in Tsinghua University, <i>Champion</i>	<i>Apr. 2010</i>

## SKILLS

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<b>Language</b>	Proficient in MATLAB, Python, C/C++; Experience with Java, assembly
<b>Library</b>	Proficient in MatConvNet, scikit-learn; Experience with Caffe, TensorFlow, PCL, ROS, OpenCV, Jsoup, RTLinux
<b>Hardware</b>	Experience with Microcontroller Units, Verilog HDL, VHDL
<b>Other</b>	Skilled in Qt, SketchUp, Vim, git, Adobe Photoshop, Adobe Premiere