

Wongun Choi

CONTACT INFORMATION	NEC Laboratories America, Inc 10080 N. Wolfe Rd. Suite SW3-350 Cupertino, CA 95014	Cell: (734) 660-5609 E-mail: wongun@nec-labs.com
	http://www-personal.umich.edu/~wgchoi/ Google Scholar Profile	
CITIZENSHIP	Citizen of S. Korea and U.S. Permanent Resident	
RESEARCH INTERESTS	Computer Vision and Machine Learning.	
EDUCATION	University of Michigan , Ann Arbor, MI, USA M.S. and Ph.D., Electrical and Computer Engineering, 2008 to 2013 <ul style="list-style-type: none">• Thesis: <i>Understanding Complex Human Behaviour in Images and Videos.</i>• Advisor: Professor Silvio Savarese• Area of Study: Computer Vision Seoul National University , Seoul, Korea B.S., Electrical Engineering, Feb. 2008 <ul style="list-style-type: none">• <i>Magna cum Laude.</i>• Emphasis on signal processing.	
EXPERIENCES	NEC Laboratories America , Cupertino, CA, USA	Jul. 2013 to Present
	Title: <i>Research Staff Member</i> Working as a research scientist focussing on computer vision problems. Leading two projects related to visual perception for the autonomous vehicles. <ol style="list-style-type: none">1. Online and real-time object detection and tracking with a monocular camera.2. Large scale video data annotation with crowdsourcing.	
	Willowgarage, Inc. , Menlo Park, CA, USA	Mar. 2011 to Jun. 2011
	Title: <i>Research Intern</i> Designed and implemented a robust people tracking algorithm for a mobile robot (PR2).	
	University of Michigan , Ann Arbor, MI, USA	May 2009 to May 2013
	Title: <i>Graduate Student Research Assistant</i> Focussed on computer vision research projects with an emphasis on 3D scene understanding and machine learning. Had been the lead research student for the following projects: <ol style="list-style-type: none">1. Collective Human Activity Recognition in Videos.2. An online multiple target tracking algorithm for a mobile platform.3. 3D indoor scene understanding given a single image.	

Alien Technology Corporation, Morgan Hill, CA, USA

Jul. 2007

Title: *Software R&D Intern*

Designed device drivers for standalone RFID reader.

Airlink Tech, Seoul, Korea

Mar. 2005 to Jul. 2006

Title: *Software Engineer*

Designed and implemented the user-interface for media player and a decryption algorithm for TiVo file reader.

3R, Inc., Seoul, Korea

Sep. 2003 to Jan. 2005

Title: *Software Engineer*

Was responsible for the implementation of backup system for Digital Video Recorder (DVR). Designed and implemented remote control software for DVR system.

PUBLICATIONS

W. Choi, Y.-W. Chao, C. Pantofaru, S. Savarese. *Indoor Scene Understanding with Geometric and Semantic Contexts*, IJCV, 2014.

W. Choi, Y.-W. Chao, C. Pantofaru, S. Savarese. *Discovering Groups of People in Images*, ECCV, 2014.

W. Choi and S. Savarese, *Understanding Collective Activities of People from Videos*, PAMI, 2014

R. Tokola, **W. Choi**, and S. Savarese, *Breaking the chain: liberation from the temporal Markov assumption for tracking human poses*, ICCV, 2013.

G. Gemignani, **W. Choi**, A. Ferone, A. Petrosino, and S. Savarese, *A Bayesian Approach to Tracking Learning Detection*, ICIAP, 2013.

Y. Chao, **W. Choi**, C. Pantofaru and S. Savarese, *Layout Estimation of Highly Cluttered Indoor Scenes using Geometric and Semantic Cues*, ICIAP, 2013.

W. Choi, Y.-W. Chao, C. Pantofaru, S. Savarese. *Understanding Indoor Scenes using 3D Geometric Phrases*, in CVPR (**oral** - 3.2% acceptance rate), 2013.

W. Choi and S. Savarese. *Recognizing Complex Human Activities via Crowd Context*, Book Chapter, Augmented Vision and Reality, Springer 2013.

W. Choi, C. Pantofaru, S. Savarese. *A General Framework for Tracking Multiple People from a Moving Camera*, in PAMI, 2013.

W. Choi and S. Savarese. *A Unified Framework for Multi-Target Tracking and Collective Activity Recognition*, in ECCV (**oral** - 2.8% acceptance rate), 2012.

W. Choi, C. Pantofaru, S. Savarese. *Detecting and Tracking People using an RGB-D Camera via Multiple Detector Fusion*, Workshop on Challenges and Opportunities in Robot Perception in conjunction with ICCV, 2011.

W. Choi, K. Shahid, S. Savarese. *Learning Context for Collective Activity Recognition*, in CVPR, 2011.

W. Choi and S. Savarese. *Multiple Target Tracking in World Coordinate with Single, Minimally Calibrated Camera*, in ECCV, 2010.

W. Choi, K. Shahid, S. Savarese. *What are they doing? : Collective Activity Classification Using Spatio-Temporal Relationship Among People*, Workshop on Visual Surveillance in conjunction with ICCV, 2009.

TALKS

Guest Lecture, Computer Vision Class at Stanford University, “Multiple Target Tracking and Collective Human Activity Understanding”, Oct. 2013.

Invited talk, “Understanding Complex Human Behaviors in Videos”, Vision Seminar, Gatech, Apr. 2013.

Invited talk, “Understanding Complex Human Behaviors in Videos”, Google, Inc, Mar. 2013.

Invited talk, “Understanding Complex Human Behaviors in Videos”, VASC Seminar, CMU, Mar. 2013.

Invited talk, “Understanding Complex Human Behaviors in Videos”, Vision Seminar, UMD, Mar. 2013.

Oral presentation, “Understanding Indoor Scenes using 3D Geometric Phrases”, In CVPR, 2013.

Oral presentation, “A Unified Framework for Multi-Target Tracking and Collective Activity Recognition”, In ECCV, 2012.

Oral Presentation, “A Unified Framework for Multi-Target Tracking and Collective Activity Recognition”, In Midwest Vision Workshop, UIUC, 2012.

Public Seminar, Seoul National University, Seoul, Korea, hosted by Prof. Jinyoung Choi. “Understanding Complex Human behaviour by Spatio-Temporal Interactions”, 2012.

Lab Seminar, Computer Vision Lab at Yonsei University, Seoul, Korea, hosted by Prof. Hyeran Byun. “Understanding Complex Human behaviour by Spatio-Temporal Interactions”, 2012.

Guest Lecture, Computer Vision Class at University of Michigan, Ann Arbor, US. “Intro to Object Recognition”, 2011.

ACADEMIC SERVICES

Conference Paper Reviews: *European Conference on Computer Vision, Computer Vision and Pattern Recognition, Int. Conference on Computer Vision, Int. Conference on Pattern Recognition*, etc.

Journal Paper Reviews: *IEEE transaction on Pattern Analysis and Machine Intelligence, International Journal on Computer Vision*, etc.

AWARDS

Best poster presentation award

- Engineering Graduate Symposium at University of Michigan, 2012

Best poster presentation award

- Engineering Graduate Symposium at University of Michigan, 2009

Korea Science and Technology Scholarship

- Scholarship, 2007 Spring and Fall.

TECH. SKILLS

Math & Algorithms: Ample experience on discrete and continuous optimization, prob-

abilistic model and machine learning algorithms.

Programming language: MATLAB, C, C++, Python, Javascript, UNIX shell scripting, and others

Operating Systems: Robot Operating System (ROS), Microsoft Windows family, Apple OS X, and Linux.