

Hang Chu

Mobile: (607) 280-7083 / E-mail: chuhang1122@gmail.com, hc772@cornell.edu
Address: 21 Carlton St., Apt. 1605, Toronto, ON M5B 1L3, Canada / Homepage: chuhang.github.io

EDUCATION

School of Electrical and Computer Engineering, Cornell University <i>M.S. (Thesis-Track), Computer Vision concentration</i> <ul style="list-style-type: none">GPA 4.04/4.30 (rank 1/8)Thesis: Vision-based Localization with Map InformationThesis committee: Prof. Tsuhan Chen, and Prof. Ashutosh Saxena	Aug. 2013-Aug. 2015
Dept. of Electronic Engineering, Shanghai Jiao Tong University (SJTU) <i>B.S. in Information Engineering</i> <ul style="list-style-type: none">Major GPA 3.90/4.30 (91.2/100) (rank 20/290)Thesis: A Heat-Map-based Algorithm for Group Activity RecognitionExcellent Bachelor Thesis Award (3/290)	Sept. 2009-July 2013

ACADEMIC EXPERIENCES

University of Toronto <ul style="list-style-type: none">Visiting Researcher, Dept. of Computer Science	Oct. 2015-present
Toyota Technological Institute at Chicago <ul style="list-style-type: none">Robotics Visiting Student	June 2015-Oct. 2015
INSA Lyon-SJTU Specific Program in Engineering <ul style="list-style-type: none">Image & Vision Technologies	Jan. 2013-May 2013
RWTH Aachen University <ul style="list-style-type: none">Automation & Simulation Summer School	Aug. 2012-Sept. 2012

PUBLICATIONS

Journal Papers:

- Weiyao Lin, **Hang Chu**, Jianxin Wu, Bin Sheng, and Zhenzhong Chen, A Heat-Map-based Algorithm for Recognizing Group Activities in Videos, IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2013. ([pdf](#), [demo](#))

Conference Papers:

- Hang Chu**, Dong-Ki Kim, and Tsuhan Chen, You Are Here: Mimicking the Human Thinking Process in Reading Floor-Plans, to appear at International Conference on Computer Vision (ICCV), 2015. ([pdf](#), [demo](#))
- Hang Chu**, and Anh Vu, Consistent Ground-Plane Mapping: A Case Study Utilizing Low-Cost Sensor Measurements and a Satellite Image, International Conference on Robotics and Automation (ICRA), 2015. ([pdf](#), [demo](#))
- Hang Chu**, Andrew Gallagher, and Tsuhan Chen, GPS Refinement and Camera Orientation Estimation from a Single Image and a 2D Map, Workshop on Mobile Vision, Computer Vision and Pattern Recognition (CVPRW), 2014. ([pdf](#), [demo](#))
- Hang Chu**, Weiyao Lin, Jianxin Wu, Xingtong Zhou, Yuanzhe Chen, and Hongxiang Li, A New Heat-Map-based Algorithm for Human Group Activity Recognition, ACM Multimedia (ACM MM), 2012. ([pdf](#), [demo](#))

Under Review:

- Hang Chu**, Hongyuan Mei, Mohit Bansal, and Matthew R. Walter, Accurate Vision-based Vehicle Localization using Satellite Imagery, submitted to International Conference on Robotics and Automation (ICRA), 2016. ([pdf](#))

RESEARCH EXPERIENCES

Visiting Researcher, Dept. of Computer Science, University of Toronto Advisor: Prof. Raquel Urtasun <ul style="list-style-type: none">Ongoing research on semantic scene understanding.	Oct. 2015-present
Robotics Visiting Student, Toyota Technological Institute at Chicago (TTI-C) Advisor: Prof. Matthew Walter	June 2015-Oct. 2015

- Proposed a method for localizing a ground image in a satellite image, using deep neural network features and multi-view learning.
- Worked on a system for localizing an agent in forest environment, with the aids from a companion scout UAV and natural language descriptions. (Collaborative project with MIT Lincoln Lab)
- Published one conference paper (under review).

M.S. Student, Advanced Multimedia Processing Lab, Cornell University

Advisors: Prof. Tsuhan Chen, Dr. Andrew Gallagher, and Prof. Ashutosh Saxena **Aug. 2013-Aug. 2015**

- Proposed methods and developed systems in multiple projects of vision-based localization with map information.
- Developed a system for photo aesthetic evaluation using objectness detection and photography composition rules. (Collaborative project with Futurewei Media Lab)
- Mentored Cornell M.Eng. student project of Kaizhou Xu, on visual-based indoor 3D reconstruction.
- Published three conference papers.

Undergraduate Research Student, Computer Vision Group, Dept. of Electronic Engineering, SJTU

Advisor: Prof. Weiyao Lin **Jan. 2012-July 2013**

- Proposed the method and developed the system for automatic group activity recognition in surveillance videos, based on a temporal-spatial model inspired by heat diffusion.
- Published one conference paper and one journal paper.

Undergraduate Research Student, Machine Learning Group, Dept. of Computer Science, SJTU

Advisor: Prof. Wu-Jun Li **Sept. 2011-Jan. 2013**

- Studied basic machine learning and probabilistic graphical models.
- Studied image hashing and sentiment analysis in social networks.

INTERNSHIPS

Research Intern, Volkswagen Electronics Research Laboratory **June 2014-Aug. 2014**

- Proposed the method and developed the system for automatic registration of high resolution road-lane images, using low-cost vehicle sensors and a low resolution satellite image.
- Published one conference paper as the first author.

Research Intern, China Mobile Research Institute **July 2012-Sept. 2012**

- Studied WiFi fingerprint-based indoor localization algorithms.

HONORS & AWARDS

ICRA Student Travel Award, 2015
 SJTU Excellent Bachelor Thesis Award, 2013 (3/290)
 ACM Multimedia Student Travel Award, 2012
 SJTU Pan Wen Yuan Scholarship, 2010 (15/630)
 SJTU Student Award, 2009-2013 (60/630)

ACADEMIC SERVICES

Reviewer/External Reviewer

- Conferences: CVPR 2014-2015, ECCV 2014, ACCV 2014, ICIP 2015
- Journals: Circuits Systems and Signal Processing, Visual Communication and Image Representation

SKILLS

Proficient in: C++, Matlab, OpenCV
 Experience in: Python, JavaScript, ROS, OpenGL, Caffe