

# Hang Chu

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## EDUCATION

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

## ACADEMIC EXPERIENCES

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<b>Toyota Technological Institute at Chicago</b> Robotics Visiting Student	<b>June 2015-present</b>
<b>INSA Lyon-SJTU Specific Program in Engineering</b> Image & Vision Technologies	<b>Jan. 2013-May 2013</b>
<b>RWTH Aachen University</b> Automation & Simulation Summer School	<b>Aug. 2012-Sept. 2012</b>

## 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, submitted to 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](#))

## RESEARCH EXPERIENCES

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<b>Robotics Visiting Student, Toyota Technological Institute at Chicago (TTI-C)</b> <i>Advisor: Prof. Matthew Walter</i>	<b>June 2015-present</b>
<ul style="list-style-type: none"><li>Ongoing research on SLAM using deep siamese networks, and solving the PnP problem with weak correspondences.</li><li>Developing a system for localization of an agent, with aid from a companion scout UAV and natural language descriptions. (Collaborating project with MIT Lincoln Lab)</li></ul>	
<b>M.S. Student, Advanced Multimedia Processing Lab, Cornell University</b> <i>Advisor: Prof. Tsuhan Chen, Dr. Andrew Gallagher, and Prof. Ashutosh Saxena</i>	<b>Aug. 2013-Aug. 2015</b>
<ul style="list-style-type: none"><li>Proposed methods and developed systems in multiple projects of vision-based localization with map information.</li><li>Developed a system for photo aesthetic evaluation using objectness detection and photography composition rules. (Collaborating project with Futurewei Media Lab)</li></ul>	

- Supervised Cornell M.Eng. student project of Kaizhou Xu, on visual-based indoor 3D reconstruction.
- Published three conference papers as the first author (one in submission).

**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

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**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

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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

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**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

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Proficient in: C++, Matlab, OpenCV

Experience in: Python, JavaScript, ROS, OpenGL, Caffe, LabVIEW