

Hang Chu

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EDUCATION

Dept. of Electronic Engineering, Shanghai Jiao Tong University (SJTU) <i>B.S. in Information Engineering</i>	Sept. 2009-July 2013
<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)	
School of Electrical and Computer Engineering, Cornell University <i>M.S. (Thesis-Track), Computer Vision concentration</i>	Aug. 2013-Aug. 2015
<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	

ACADEMIC EXPERIENCES

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

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, 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](#))
- 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, 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, 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](#))

RESEARCH EXPERIENCES

Undergraduate Research Student, Computer Vision Group, Dept. of Electronic Engineering, SJTU <i>Advisor: Prof. Weiyao Lin</i>	Jan. 2012-July 2013
<ul style="list-style-type: none">Proposed the method and developed the system for automatic group activity recognition using 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 <i>Advisor: Prof. Wu-Jun Li</i>	Sept. 2011-Jan. 2013
<ul style="list-style-type: none">Studied image hashing and sentiment analysis in social networks.	
M.S. Student, Advanced Multimedia Processing Lab, Cornell University <i>Advisor: Prof. Tsuhan Chen, Dr. Andrew Gallagher, and Prof. Ashutosh Saxena</i>	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. (Collaborating project with Futurewei Media Lab)
- 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).

Robotics Visiting Student, Toyota Technological Institute at Chicago (TTI-C)

Advisor: Prof. Matthew Walter

June 2015-present

- Ongoing research on SLAM using deep siamese networks, and the non-correspondence PnP problem.
- Developing a system for localizing an agent with a companion scout UAV and natural language descriptions. (Collaborating project with MIT Lincoln Lab)

INTERNSHIPS

Research Intern, China Mobile Research Institute

July 2012-Sept. 2012

- Studied WiFi fingerprint-based indoor localization algorithms.

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.

HONORS & AWARDS

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

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

Experience in: Python, JavaScript, ROS, LabVIEW