Hang Chu

Mobile: +1 (647) 627-8109 / E-mail: chuhang1122@cs.toronto.edu / Homepage: chuhang.github.io

EDUCATION

Machine Learning Group, University of Toronto　　　　　　　　　　　　　　**June 2016-present**
  Ph.D. student in Computer Science
- Advisors: Prof. Raquel Urtasun, and Prof. Sanja Fidler

School of Electrical and Computer Engineering, Cornell University　　　　**Aug. 2013-Aug. 2015**
  M. S. in Electrical and Computer Engineering
- GPA 4.00/4.00 (rank 1/8)
- Thesis: Vision-based Localization with Map Information
- Thesis committee: Prof. Tsuhan Chen, and Prof. Ashutosh Saxena

Dept. of Electronic Engineering, Shanghai Jiao Tong University (SJTU)　　**Sept. 2009-July 2013**
  B.S. in Information Engineering
- Major GPA 3.90/4.30 (91.2/100) (rank 20/290)
- Thesis: A Heat-Map-based Algorithm for Group Activity Recognition
- Excellent Bachelor Thesis Award (3/290)

ACADEMIC EXPERIENCES

University of Toronto　　　　　　　　　　　　　　　　　　　　　　**Oct. 2015-June 2015**
- Visiting Researcher, Machine Learning Group

Toyota Technological Institute at Chicago　　　　　　　　　　　　　　**June 2015-Oct. 2015**
- Robotics Visiting Student

INSA Lyon-SJTU Specific Program in Engineering　　　　　　　　　　　**Jan. 2013-May 2013**
- Image & Vision Technologies

RWTH Aachen University　　　　　　　　　　　　　　　　　　　　**Aug. 2012-Sept. 2012**
- Automation & Simulation Summer School

PUBLICATIONS

Journal Paper:
- 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 (T-CSVT), 2013. (pdf, demo)

Conference Papers:
- **Hang Chu**, Shenlong Wang, Raquel Urtasun, and Sanja Fidler, HouseCraft: Building Houses from Rental Ads and Street Views, European Conference on Computer Vision (ECCV), 2016. (pdf, proj, code)
- **Hang Chu**, Hongyuan Mei, Mohit Bansal, and Matthew R. Walter, Accurate Vision-based Localization by Transferring Between Ground and Satellite Images, Workshop on Transfer and Multi-Task Learning, Neural Information Processing Systems (NIPS Workshop), 2015. (pdf)
- **Hang Chu**, Dong-Ki Kim, and Tsuhan Chen, You Are Here: Mimicking the Human Thinking Process in Reading Floor-Plans, 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 (CVPR Workshop), 2014. (pdf, demo, code)
- **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)

Preprint:
- **Hang Chu**, Raquel Urtasun, and Sanja Fidler, Song From PI: A Musically Plausible Network for Pop Music Generation, arXiv 1611.03477, 2016. (pdf, proj, media)

RELATED COURSES

Undergraduate Courses: Linear Algebra (A+), Discrete Mathematics (A+), Probability and Statistics (A), Digital Image Processing (A), Thesis Project (A+)

Graduate Courses: Computer Vision (A+), Advanced Robot Learning (A), Heuristic Methods for Optimization (A-), Numerical Analysis (A), Biomedical Image Analysis (A+)

Online Courses with Certifications: Machine Learning (with distinction), Probabilistic Graphical Models (with distinction)

RESEARCH EXPERIENCES

Visiting Researcher, Dept. of Computer Science, University of Toronto

    Advisors: Prof. *Raquel Urtasun,* and Prof. *Sanja Fidler*   **Oct. 2015-June 2016**

- Semantic scene understanding.

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

    Advisor: Prof. *Matthew R. Walter*   **June 2015-Oct. 2015**

- Localizing a ground image in a satellite image.
- Localizing a camera in forest environment (Collaborative project with MIT Lincoln Lab).

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

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

- Vision-based localization with map information.
- Automatic photo aesthetic evaluation (Collaborative project with Futurewei Media Lab).
- Mentored Cornell M.Eng. student project of Kaizhou Xu.

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

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

- Automatic group activity recognition in surveillance videos.

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

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

- Image hashing and sentiment analysis.

INDUSTRIAL EXPERIENCES

Research Intern, Volkswagen Electronics Research Laboratory   **June 2014-Aug. 2014**
- Automatic registration of high resolution road-lane images.

Research Intern, China Mobile Research Institute   **July 2012-Sept. 2012**
- WiFi fingerprint-based indoor localization.

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

- Conferences: IROS 2016, NIPS 2016
- Journals: Circuits Systems and Signal Processing, Visual Communication and Image Representation, Security and Communication Networks

SKILLS

Proficient in: C++, Matlab, OpenCV
Experience in: ROS, WebGL, Caffe, Torch