

# Tianmin Shu

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## CONTACT INFORMATION

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## EDUCATION

**University of California, Los Angeles**, Los Angeles, CA, USA 09/2014 - present

*Ph.D. student in Statistics*

- Advisor: Song-Chun Zhu
- Areas of focus: human activity recognition, video event detection, human-robot interaction

**Fudan University**, Shanghai, China 09/2010 - 06/2014

*B.S. in Electronic Engineering*

## RESEARCH EXPERIENCE

**Center for Vision, Cognition, Learning and Art, UCLA** 09/2014 - present  
*Graduate Student Researcher* *Advisor: Song-Chun Zhu*

- Group activity recognition: learning deep structured models of group activities in videos
- Human-robot interaction: learning social affordances from RGB-D videos of human activities and transferring the learned knowledge to a humanoid (e.g., Baxter) to enable socially appropriate human-robot interactions

**Center for Vision, Cognition, Learning and Art, UCLA** 07/2013 - 09/2013  
*Research Intern* *Advisor: Song-Chun Zhu*

- Inferring group events and roles in aerial videos; released an aerial video dataset for activity recognition and tracking

**Digital Signal Processing and Transmission Lab, Fudan University** 06/2012 - 06/2014  
*Research Assistant* *Advisor: Bo Hu*

- Real-time surveillance video stitching system; multi-object tracking and event detection in surveillance videos

## PUBLICATIONS

(\* indicates equal contribution)

**T. Shu**, S. Todorovic and S.-C. Zhu. CERN: Confidence-Energy Recurrent Network for Group Activity Recognition. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017.

**T. Shu**, X. Gao, M. S. Ryoo and S.-C. Zhu. Learning Social Affordance Grammar from Videos: Transferring Human Interactions to Human-Robot Interactions. *IEEE International Conference on Robotics and Automation (ICRA)*, 2017.

D. Xie, **T. Shu**, S. Todorovic and S.-C. Zhu. Modeling and Inferring Human Intents and Latent Functional Objects for Trajectory Prediction. *arXiv:1606.07827 (under review for T-PAMI)*

**T. Shu**, M. S. Ryoo and S.-C. Zhu. Learning Social Affordance for Human-Robot Interaction. *25th International Joint Conference on Artificial Intelligence (IJCAI)*, 2016. (**acceptance rate: 558/2294= 24%**)

**T. Shu\***, S. Thurman\*, D. Chen, S.-C. Zhu and H. Lu. Critical Features of Joint Actions that Signal Human Interaction. *38th Annual Meeting of the Cognitive Science Society (CogSci)*, 2016.

**T. Shu**, D. Xie, B. Rothrock, S. Todorovic and S.-C. Zhu. Joint Inference of Groups, Events and Human Roles in Aerial Videos. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015. (**Oral presentation, acceptance rate: 71/2123 = 3.3%**)

PROFESSIONAL SERVICE

**Conference Reviewer:** IEEE Conference on Computer Vision and Pattern Recognition (CVPR)

TEACHING EXPERIENCE

**University of California, Los Angeles, Department of Statistics**  
*STATS 232A: Statistical Modeling and Learning in Vision and Cognition* 01/2016 - 03/2016  
 - Teaching Assistant  
 - Graded homework and held office hours

*STATS 130: Getting up to Speed with SPSS, Stata, SAS, and R* 03/2015 - 06/2015  
 - Teaching Assistant  
 - Organized weekly discussion sessions, graded homework and held office hours  
 - Evaluation: 8.2 / 9.0

SELECTED HONORS AND AWARDS

Outstanding Bachelor Thesis of Fudan University 2014  
 Shanghai Outstanding Graduate Award, Shanghai Municipal Education Commission, China 2014  
 National Scholarship of China, Ministry of Education, China 2013  
 UCLA Cross-disciplinary Scholars in Science and Technology Scholarship 2013  
 Outstanding Student of Fudan University 2011, 2012, 2013  
 Tencent Innovative Scholarship for Outstanding Students at Fudan University 2012  
 First Prize of the Scholarship for Outstanding Students at Fudan University 2011  
 China Undergraduate Mathematical Contest in Modeling, Second Prize 2011  
 The ACM-ICPC Asia Regional Contest Harbin Site, Silver Prize 2010

COMPUTER SKILLS

- Programming: C/C++, MATLAB, R, Python, Perl, Java, Pascal, Assembly Language, VHDL
- Statistics Softwares: SAS, STATA, SPSS
- Operating Systems: Linux, Mac OS X, Windows.