

Danfei Xu

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RESEARCH INTERESTS	Computer Vision, Robot Learning	
EDUCATION	Stanford University , Stanford, CA Ph.D. in Computer Science, (September 2015 - present) Columbia University , New York, NY B.S. in Computer Science, <i>magna cum laude</i> , (May 2015)	
RESEARCH EXPERIENCE	Ph.D. Candidate, Stanford University (Stanford, CA) 2015- • Ph.D. candidate in the Stanford Vision and Learning Lab, co-advised by Professor Silvio Savarese and Professor Fei-Fei Li. Research Intern, Zox Inc. (Menlo Park, CA) Summer 2017 • PointFusion: Deep Sensor Fusion for 3D Bounding Box Estimation Research Intern, Autodesk Research. (San Francisco, CA) Summer 2016 • Generative design with deep reinforcement learning Research Assistant, Columbia University (New York, NY) 2013-2015 • Model-Driven Feedforward Prediction for Manipulation of Deformable Objects Research Intern, CMU Robotics Institute (Pittsburgh, PA) Summer 2013, 2014 • Topometric localization on a road network Research Intern, SynTouch, LLC (Los Angeles, CA) Summer 2012 • Tactile identification of objects using Bayesian exploration	
PREPRINTS	Huang DA., Nair S., Xu, D. , Zhu, Y., Garg, A., Savarese, S., Fei-Fei L., Niebles, JC., Neural Task Graphs: Generalizing to Unseen Tasks from a Single Video Demonstration, <i>arXiv preprint 1807.03480</i> 2018.	
CONFERENCE PUBLICATIONS	Xu, D. , Nair S., Zhu, Y., Garg, A., Gao, J., Fei-Fei L., Savarese, S., Neural Task Programming: Learning to Generalize across Hierarchical Tasks, <i>International Conference on Robotics and Automation (ICRA)</i> 2018. Xu, D. , Anguelov, D., Jain, A., PointFusion: Deep Sensor Fusion for 3D Bounding Box Estimation, <i>Conference on Computer Vision and Pattern Recognition (CVPR)</i> 2018. Pirk, S., Diamanti, O., Thibert, B., Xu, D. and Guibas, L., 2017, September. Shape-aware spatio-temporal descriptors for interaction classification. <i>IEEE International Conference on Image Processing (ICIP)</i> , 2017. Xu, D. , Zhu, Y., Choy, B., Fei-Fei, L., Scene Graph Generation by Iterative Message Passing, <i>Conference on Computer Vision and Pattern Recognition (CVPR)</i> 2017. Choy, B., Xu, D. , Gwak, J., Chen, K., Savarese, S., 3D-R2N2: A Unified Approach for Single and Multi-view 3D Object Reconstruction, <i>European Conference on Computer Vision (ECCV)</i> 2016.	

Li, Y., Hu, X., **Xu, D.**, Yue, Y., Grinspun, E. and Allen, P.K., 2016, May. Multi-sensor surface analysis for robotic ironing. *International Conference on Robotics and Automation (ICRA)*, 2016.

Li, Y., Yue, Y., **Xu, D.**, Grinspun, E. and Allen, P.K., 2015, September. Folding deformable objects using predictive simulation and trajectory optimization. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2015.

Li, Y., **Xu, D.**, Yue, Y., Wang, Y., Chang, S., Grinspun, E., Allen, P., Recognition, Regrasping, and Unfolding of Deformable Object using Predictive Thin Shell Model, *IEEE International Conference on Robotics and Automation (ICRA)* 2015.

Xu, D., Badino, H., Huber, D., Topometric localization on a road network, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* 2014.

Xu, D., Loeb, G.E., Fishel, J.A., Tactile identification of objects using Bayesian exploration, *IEEE International Conference on Robotics and Automation (ICRA)* 2013.

JOURNAL
PUBLICATIONS

Li, Y., Wang, Y., Yue, Y., **Xu, D.**, Case, M., Chang, S.F., Grinspun, E. and Allen, P.K., Model-Driven Feedforward Prediction for Manipulation of Deformable Objects. *IEEE Transactions on Automation Science and Engineering.*, 2018.

HONORS AND
AWARDS

- Outstanding Undergraduate Researcher Award 2015
 - Computing Research Association
- Theodore R. Bashkow Award (Excellence in independent research)
 - Department of Computer Science, Columbia University

TEACHING

- CS231N: Convolutional Neural Networks for Visual Recognition Spring 2018
Teaching Assistant Stanford University
- CS231A: Computer Vision, From 3D Reconstruction to Recognition Winter 2018
Teaching Assistant Stanford University
- COMS 4121: Computing Systems for Data Science Spring 2015
Teaching Assistant Columbia University