

Liefeng Bo

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RESEARCH INTERESTS	Machine Learning, Computer Vision, and Robotics.	
POSITIONS	<i>Senior Research Scientist</i> at Amazon.com Seattle, Washington, United States	Sep 2013 - Now
	<i>Senior Research Scientist</i> at Intel Corporation Seattle, Washington, United States	May 2012 - Aug 2013
	<i>Postdoctoral Researcher</i> in Computer Science • Advisor: Dieter Fox University of Washington, Seattle, Washington, United States	Mar 2010 - Apr 2012
	<i>Postdoctoral Researcher</i> in Computer Science • Advisor: Cristian Sminchisescu Toyota Technological Institute at Chicago, Chicago, Illinois, United States	Oct 2007 - Feb 2010
EDUCATION	Ph.D. in Electronic Engineering, • Dissertation: Large Scale Kernel Machines • Advisor: Licheng Jiao B.S. in Applied Mathematics, Xidian University, Xi'an, Shaanxi, China	Sep 2002 - Dec 2007 Sep 1998 - Jul 2002
HONORS AND AWARDS	Finalist for Best Vision Paper Award, ICRA 2014 — Flagship Robotics Conference Best Vision Paper Award, ICRA 2011 2010 National Excellent Doctoral Dissertation Award — Highest Award for PhD Thesis in China 2009 Excellent Doctoral Dissertation at Xidian University Honorable Mention in the 2001 Mathematical Contest in Modeling National First Prize in the 2000 China Undergraduate Mathematical Contest in Modeling	
PROFESSIONAL ACTIVITIES	Conference PC Member <ul style="list-style-type: none">• Advances in Neural Information Processing System (NIPS), 2011-2014• Computer Vision and Pattern Recognition (CVPR), 2010-2014• International Conference on Computer Vision (ICCV), 2011, 2013• European Conference on Computer Vision (ECCV), 2010, 2012• SIAM International Conference on Data Mining (SDM), 2013 Journal Reviewer <ul style="list-style-type: none">• IEEE Transaction on Pattern Analysis and Machine Intelligence• IEEE Transaction on Image Processing• IEEE Transaction on Neural Networks• IEEE Transaction on System, Man and Cybernetics, Part B• International Journal of Computer Vision• Pattern Recognition	

SELECTED
PUBLICATIONS

1. Liefeng Bo, Xiaofeng Ren and Dieter Fox, Learning Hierarchical Sparse Features for RGB-(D) Object Recognition, International Journal of Robotics Research (IJRR), 2014.
2. Cynthia Matuszek, Liefeng Bo, Luke Zettlemoyer and Dieter Fox, Learning from Unscripted Deictic Gesture and Language for Human-Robot Interactions, AAAI 2014.
3. Kevin Lai, Liefeng Bo and Dieter Fox, Unsupervised Feature Learning for 3D Scene Labeling, ICRA 2014. **Finalist for Best Vision Paper Award**
4. Marianna Madry, Liefeng Bo, Danica Kragic and Dieter Fox, ST-HMP: Unsupervised Spatio-Temporal Feature Learning for Tactile Data, ICRA 2014.
5. Michael Ruhnke, Liefeng Bo and Dieter Fox and Wolfram Burgard, Hierarchical Sparse Coded Surface Models, ICRA 2014.
6. Yuyin Sun, Liefeng Bo and Dieter Fox, Learning to Identify New Objects, ICRA 2014.
7. Liefeng Bo, Xiaofeng Ren and Dieter Fox, Multipath Sparse Coding Using Hierarchical Matching Pursuit, CVPR 2013.
8. Yuyin Sun, Liefeng Bo and Dieter Fox, Attribute Based Object Identification, ICRA 2013.
9. Kevin Lai, Liefeng Bo, Xiaofeng Ren and Dieter Fox, RGB-D Object Recognition: Features, Algorithms, and a Large Scale Benchmark, Consumer Depth Cameras for Computer Vision, Springer, 2013.
10. Xiaofeng Ren and Liefeng Bo, Discriminatively Trained Sparse Code Gradients for Contour Detection, NIPS 2012.
11. Shulin Yang and Liefeng Bo and Jue Wang and Linda Shapiro, Unsupervised Template Learning for Fine-Grained Object Recognition, NIPS 2012.
12. Miro Enev, Jaeyeon Jung, Liefeng Bo, Xiaofeng Ren and Tadayoshi Khono, SensorSift: Balancing Sensor Data Privacy and Utility in Automated Face Understanding, ACSAC 2012.
13. Liefeng Bo, Xiaofeng Ren and Dieter Fox, Unsupervised Feature Learning for RGB-D Based Object Recognition, ISER 2012.
14. Cynthia Matuszek, Nicholas FitzGerald, Liefeng Bo, Luke Zettlemoyer, and Dieter Fox, A joint model of language and perception for grounded attribute learning, ICML 2012.
15. Xiaofeng Ren, Liefeng Bo, and Dieter Fox, RGB-(D) Scene Labeling: Features and Algorithms, CVPR 2012.
16. Kevin Lai, Liefeng Bo, Xiaofeng Ren and Dieter Fox, Detection-based Object Labeling in 3D Scenes, ICRA 2012.
17. Liefeng Bo, Xiaofeng, Ren and Dieter Fox, Hierarchical Matching Pursuit for Image Classification: Architecture and Fast Algorithms, NIPS 2011.
18. Liefeng Bo, Xiaofeng Ren and Dieter Fox, Depth Kernel Descriptors for Object Recognition, IROS 2011.
19. Liefeng Bo, Kevin Lai, Xiaofeng Ren and Dieter Fox, Object Recognition with Hierarchical Kernel Descriptors, CVPR 2011.
20. Diane Hu, Liefeng Bo and Xiaofeng Ren, Toward Robust Material Recognition for Everyday Objects, BMVC 2011.
21. Kevin Lai, Liefeng Bo, Xiaofeng Ren and Dieter Fox, A Scalable Tree-based Approach for Joint Object and Pose Recognition, AAAI 2011. **Oral, 4.4% Acceptance Rate**
22. Kevin Lai, Liefeng Bo, Xiaofeng Ren and Dieter Fox, A Large-Scale Hierarchical Multi-View RGB-D Object Dataset, ICRA 2011.
23. Kevin Lai, Liefeng Bo, Xiaofeng Ren and Dieter Fox, Sparse Distance Learning for Object Recognition Combining RGB and Depth Information, ICRA 2011.
Best Vision Paper Award

24. Cynthia Matuszek, Brian Mayton, Roberto Aimi, Marc Deisenroth, Liefeng Bo, Robert Chu, Michael Kung, Louis LeGrand, Joshua R. Smith and Dieter Fox, Gambit: An Autonomous Chess Playing Manipulator, ICRA 2011.
25. Liefeng Bo, Xiaofeng Ren and Dieter Fox, Kernel Descriptors for Visual Recognition, NIPS 2010. **Spotlight, 6% Acceptance Rate**
26. Liefeng Bo and Cristian Sminchisescu, Twin Gaussian Processes for Structured Prediction, International Journal of Computer Vision (IJCV), vol. 87, pp. 28-52, 2010.
27. Liefeng Bo and Cristian Sminchisescu, Efficient Match Kernel between Sets of Features for Visual Recognition, NIPS 2009. **Spotlight, 8% Acceptance Rate**
28. Jian Peng, Liefeng Bo and Jinbo Xu, Conditional Neural Fields, NIPS 2009.
29. Catalin Ionescu, Liefeng Bo, and Cristian Sminchisescu, Structural SVM for Visual Localization and Continuous State Estimation. ICCV 2009.
30. Dong Han, Liefeng Bo, and Cristian Sminchisescu, Selection and Context for Action Recognition, ICCV 2009.
31. Liefeng Bo and Cristian Sminchisescu, Structured Output-Associative Regression, CVPR 2009.
32. Liefeng Bo and Cristian Sminchisescu, Supervised Spectral Latent Variable Models, AISTATS 2009.
33. Liefeng Bo and Cristian Sminchisescu, Greedy Block Coordinate Descent for Large Scale Gaussian Process Regression, UAI 2008.
34. Liefeng Bo, Cristian Sminchisescu, Atul Kanaujia, and Dimitris Metaxas, Fast Algorithms for Large Scale Conditional 3D Prediction, CVPR 2008.
35. Liefeng Bo, Ling Wang, and Licheng Jiao, Training Hard Margin Support Vector Machine Using Greedy Stagewise Algorithm, IEEE Transactions on Neural Networks (TNN), vol. 19(8), pp. 1446-1455, 2008.
36. Jin Yuan, Liefeng Bo, Kesheng Wang and Tao Yu, Adaptive Spherical Gaussian Kernel in Sparse Bayesian Learning Framework for Nonlinear Regression, Expert Systems with Applications, vol. 36(2), pp. 3982-3989, 2009
37. Maoguo Gong, Licheng Jiao, Haifeng Du, and Liefeng Bo, Multiobjective Immune Algorithm with Nondominated Neighbor-based Selection, Evolutionary Computation (EC), vol. 16(2), pp. 225-255, 2008.
38. Maoguo Gong, Licheng Jiao, Liefeng Bo, Ling Wang and Xiangrong Zhang, Image Texture Classification Using a Manifold Distance based Evolutionary Clustering Method. Optical Engineering (OE), vol. 47(7), 077201, 2008.
39. Xiangrong Zhang, Licheng Jiao, Fang Liu, Liefeng Bo, and Maoguo Gong, Spectral Clustering Ensemble Applied to Texture Features for SAR Image Segmentation, IEEE Transactions on Geoscience and Remote Sensing (TGRS), vol. 46(7), pp. 2126-2135, 2008.
40. Liefeng Bo, Licheng Jiao, and Ling Wang, Working Set Selection Using Functional Gain for LS-SVM, IEEE Transactions on Neural Networks (TNN), vol. 18(5), pp. 1541-1544, 2007.
41. Licheng Jiao, Liefeng Bo, and Ling Wang, Fast Sparse Approximation for Least Square Support Vector Machine, IEEE Transactions on Neural Networks (TNN), vol. 18(3), pp. 685-697, 2007.
42. Liefeng Bo, Ling Wang, and Licheng Jiao, Recursive Finite Newton Algorithm for Support Vector Regression in the Primal, Neural Computation (NC), vol. 19(4), pp. 1082-1096, 2007.
43. Liefeng Bo, Ling Wang, and Licheng Jiao, Feature Scaling for Kernel Fisher Discriminant Analysis Using Leave-one-out Cross Validation, Neural Computation (NC), vol. 18(4), pp. 961-978, 2006.

SKILLS

- Programming Languages: C++, Matlab, Python.
- Operating Systems: Unix/Linux, Windows.
- Natural Languages: English, Chinese