

Write an article with Tex

Anonymous CVPR submission

Paper ID 12345

Abstract

*This article proposes a novel method to write a paper.*

1. Introduction

Since I don't know how to write an article, this method is novel to me.[2]

2. Main section

Write these codes

3. Summary and Future work

3.1. Summary

This method is efficient

3.2. Future work

Try to add more features

References

[1] Brody Huval, Tao Wang, Sameep Tandon, Jeff Kiske, Will Song, Joel Pazhayampallil, Mykhaylo Andriluka, Pranav Rajpurkar, Toki Migimatsu, Royce Cheng-Yue, Fernando Mujica, Adam Coates, and Andrew Y. Ng. An empirical evaluation of deep learning on highway driving. *CoRR*, abs/1504.01716, 2015.

[2] Pranav Rajpurkar, Toki Migimatsu, Jeff Kiske, Royce Cheng-Yue, Sameep Tandon, Tao Wang, and Andrew Y. Ng. Driverseat: Crowdstrapping learning tasks for autonomous driving. *CoRR*, abs/1512.01872, 2015. 1

[3] Dario Amodei, Rishita Anubhai, Eric Battenberg, Carl Case, Jared Casper, Bryan C. Catanzaro, Jingdong Chen, Mike Chrzanowski, Adam Coates, Greg Diamos, Erich Elsen, Jesse Engel, Linxi Fan, Christopher Fougner, Tony Han, Awni Y. Hannun,

Billy Jun, Patrick LeGresley, Libby Lin, Sharan Narang, Andrew Y. Ng, Sherjil Ozair, Ryan Prenger, Jonathan Raiman, Sanjeev Satheesh, David Seetapun, Shubho Sengupta, Yi Wang, Zhiqian Wang, Chong Wang, Bo Xiao, Dani Yogatama, Jun Zhan, and Zhenyao Zhu. Deep speech 2: End-to-end speech recognition in english and mandarin. *CoRR*, abs/1512.02595, 2015.

[4] Morgan Quigley, Curt Salisbury, Andrew Y. Ng, and J. Kenneth Salisbury. Mechatronic design of an integrated robotic hand. *I. J. Robotic Res.*, 33(5):706–720, 2014.

[5] Richard Socher, Andrej Karpathy, Quoc V. Le, Christopher D. Manning, and Andrew Y. Ng. Grounded compositional semantics for finding and describing images with sentences. *TACL*, 2:207–218, 2014.

[6] Andrew L. Maas, Awni Y. Hannun, Christopher T. Lengerich, Peng Qi, Daniel Jurafsky, and Andrew Y. Ng. Increasing deep neural network acoustic model size for large vocabulary continuous speech recognition. *CoRR*, abs/1406.7806, 2014.

[7] Andrew L. Maas, Awni Y. Hannun, Daniel Jurafsky, and Andrew Y. Ng. First-pass large vocabulary continuous speech recognition using bi-directional recurrent dnns. *CoRR*, abs/1408.2873, 2014.

[8] Awni Y. Hannun, Carl Case, Jared Casper, Bryan C. Catanzaro, Greg Diamos, Erich Elsen, Ryan Prenger, Sanjeev Satheesh, Shubho Sengupta, Adam Coates, and Andrew Y. Ng. Deep speech: Scaling up end-to-end speech recognition. *CoRR*, abs/1412.5567, 2014.

[9] Richard Socher, John Bauer, Christopher D. Manning, and Andrew Y. Ng. Parsing with compositional vector grammars. In *Proceedings of the 51st Annual Meeting of the Association for Computational*

*Linguistics, ACL 2013, 4-9 August 2013, Sofia, Bulgaria, Volume 1: Long Papers* [195], pages 455–465.

[10] Andrew Y. Ng. The online revolution: education for everyone. In He et al. [196], pages 1913–1914.

[11] Chris Piech, Jonathan Huang, Zhenghao Chen, Chuong B. Do, Andrew Y. Ng, and Daphne Koller. Tuned models of peer assessment in moocs. In D’Mello et al. [197], pages 153–160.

[12] Adam Coates, Brody Huval, Tao Wang, David J. Wu, Bryan C. Catanzaro, and Andrew Y. Ng. Deep learning with COTS HPC systems. In *Proceedings of the 30th International Conference on Machine Learning, ICML 2013, Atlanta, GA, USA, 16-21 June 2013* [198], pages 1337–1345.

[13] Andrew Y. Ng and Daphne Koller. The online revolution: education for everyone. In Dhillon et al. [199], page 2.

[14] Richard Socher, Danqi Chen, Christopher D. Manning, and Andrew Y. Ng. Reasoning with neural tensor networks for knowledge base completion. In Burges et al. [200], pages 926–934.

[15] Richard Socher, Milind Ganjoo, Christopher D. Manning, and Andrew Y. Ng. Zero-shot learning through cross-modal transfer. In Burges et al. [200], pages 935–943.

[16] Danqi Chen, Richard Socher, Christopher D. Manning, and Andrew Y. Ng. Learning new facts from knowledge bases with neural tensor networks and semantic word vectors. *CoRR*, abs/1301.3618, 2013.

[17] Richard Socher, Milind Ganjoo, Hamsa Sridhar, Osbert Bastani, Christopher D. Manning, and Andrew Y. Ng. Zero-shot learning through cross-modal transfer. *CoRR*, abs/1301.3666, 2013.

[18] Andrew Y. Ng and Michael I. Jordan. PEGASUS: A policy search method for large mdps and pomdps. *CoRR*, abs/1301.3878, 2013.

[19] Michael Kearns, Yishay Mansour, and Andrew Y. Ng. An information-theoretic analysis of hard and soft assignment methods for clustering. *CoRR*, abs/1302.1552, 2013.

[20] Chris Piech, Jonathan Huang, Zhenghao Chen, Chuong B. Do, Andrew Y. Ng, and Daphne Koller. Tuned models of peer assessment in moocs. *CoRR*, abs/1307.2579, 2013.

[21] Brody Huval, Adam Coates, and Andrew Y. Ng. Deep learning for class-generic object detection. *CoRR*, abs/1312.6885, 2013.

[22] Eric H. Huang, Richard Socher, Christopher D. Manning, and Andrew Y. Ng. Improving word representations via global context and multiple word prototypes. In *The 50th Annual Meeting of the Association for Computational Linguistics, Proceedings of the Conference, July 8-14, 2012, Jeju Island, Korea - Volume 1: Long Papers* [201], pages 873–882.

[23] Richard Socher, Brody Huval, Christopher D. Manning, and Andrew Y. Ng. Semantic compositionality through recursive matrix-vector spaces. In Tsujii et al. [202], pages 1201–1211.

[24] Quoc V. Le, Marc’Aurelio Ranzato, Rajat Monga, Matthieu Devin, Greg Corrado, Kai Chen, Jeffrey Dean, and Andrew Y. Ng. Building high-level features using large scale unsupervised learning. In *Proceedings of the 29th International Conference on Machine Learning, ICML 2012, Edinburgh, Scotland, UK, June 26 - July 1, 2012* [203].

[25] Tao Wang, David J. Wu, Adam Coates, and Andrew Y. Ng. End-to-end text recognition with convolutional neural networks. In *Proceedings of the 21st International Conference on Pattern Recognition, ICPR 2012, Tsukuba, Japan, November 11-15, 2012* [204], pages 3304–3308.

[26] Andrew L. Maas, Quoc V. Le, Tyler M. O’Neil, Oriol Vinyals, Patrick Nguyen, and Andrew Y. Ng. Recurrent neural networks for noise reduction in robust ASR. In *INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association, Portland, Oregon, USA, September 9-13, 2012* [205], pages 22–25.

[27] Richard Socher, Brody Huval, Bharath Putta Bath, Christopher D. Manning, and Andrew Y. Ng. Convolutional-recursive deep learning for 3d object classification. In Bartlett et al. [206], pages 665–673.

[28] Jeffrey Dean, Greg Corrado, Rajat Monga, Kai Chen, Matthieu Devin, Quoc V. Le, Mark Z. Mao, Marc’Aurelio Ranzato, Andrew W. Senior, Paul A. Tucker, Ke Yang, and Andrew Y. Ng. Large scale distributed deep networks. In Bartlett et al. [206], pages 1232–1240.

[29] Adam Coates, Andrej Karpathy, and Andrew Y. Ng. Emergence of object-selective features in unsupervised feature learning. In Bartlett et al. [206], pages 2690–2698.

[30] Will Y. Zou, Andrew Y. Ng, Shenghuo Zhu, and Kai Yu. Deep learning of invariant features via simulated fixations in video. In Bartlett et al. [206], pages 3212–3220.

[31] Adam Coates and Andrew Y. Ng. Learning feature representations with k-means. In Montavon et al. [207], pages 561–580.

[32] Jeff A. Bilmes and Andrew Y. Ng. Proceedings of the twenty-fifth conference on uncertainty in artificial intelligence (2009). *CoRR*, abs/1206.3959, 2012.

[33] Roger B. Grosse, Rajat Raina, Helen Kwong, and Andrew Y. Ng. Shift-invariance sparse coding for audio classification. *CoRR*, abs/1206.5241, 2012.

[34] Pieter Abbeel, Daphne Koller, and Andrew Y. Ng. Learning factor graphs in polynomial time & sample complexity. *CoRR*, abs/1207.1366, 2012.

[35] Honglak Lee, Roger B. Grosse, Rajesh Ranganath, and Andrew Y. Ng. Unsupervised learning of hierarchical representations with convolutional deep belief networks. *Commun. ACM*, 54(10):95–103, 2011.

[36] J. Zico Kolter and Andrew Y. Ng. The stanford littledog: A learning and rapid replanning approach to quadruped locomotion. *I. J. Robot Res.*, 30(2):150–174, 2011.

[37] Andrew L. Maas, Raymond E. Daly, Peter T. Pham, Dan Huang, Andrew Y. Ng, and Christopher Potts. Learning word vectors for sentiment analysis. In Lin et al. [208], pages 142–150.

[38] Quoc V. Le, Will Y. Zou, Serena Y. Yeung, and Andrew Y. Ng. Learning hierarchical invariant spatio-temporal features for action recognition with independent subspace analysis. In *The 24th IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2011, Colorado Springs, CO, USA, 20-25 June 2011* [209], pages 3361–3368.

[39] Richard Socher, Jeffrey Pennington, Eric H. Huang, Andrew Y. Ng, and Christopher D. Manning. Semi-supervised recursive autoencoders for predicting sentiment distributions. In *Proceedings of the 2011 Conference on Empirical Methods in Natural Language Processing, EMNLP 2011, 27-31 July 2011, John McIntyre Conference Centre, Edinburgh, UK, A meeting of SIGDAT, a Special Interest Group of the ACL* [210], pages 151–161.

[40] Adam Coates, Blake Carpenter, Carl Case, Sanjeev Satheesh, Bipin Suresh, Tao Wang, David J. Wu, and Andrew Y. Ng. Text detection and character recognition in scene images with unsupervised feature learning. In *2011 International Conference on Document Analysis and Recognition, ICDAR 2011, Beijing, China, September 18-21, 2011* [211], pages 440–445.

[41] Richard Socher, Cliff Chiung-Yu Lin, Andrew Y. Ng, and Christopher D. Manning. Parsing natural scenes and natural language with recursive neural networks. In Getoor and Scheffer [212], pages 129–136.

[42] Quoc V. Le, Jiquan Ngiam, Adam Coates, Ahbik Lahiri, Bobby Prochnow, and Andrew Y. Ng. On optimization methods for deep learning. In Getoor and Scheffer [212], pages 265–272.

[43] Jiquan Ngiam, Aditya Khosla, Mingyu Kim, Juhan Nam, Honglak Lee, and Andrew Y. Ng. Multimodal deep learning. In Getoor and Scheffer [212], pages 689–696.

[44] Adam Coates and Andrew Y. Ng. The importance of encoding versus training with sparse coding and vector quantization. In Getoor and Scheffer [212], pages 921–928.

[45] Andrew M. Saxe, Pang Wei Koh, Zhenghao Chen, Maneesh Bhand, Bipin Suresh, and Andrew Y. Ng. On random weights and unsupervised feature learning. In Getoor and Scheffer [212], pages 1089–1096.

[46] Jiquan Ngiam, Zhenghao Chen, Pang Wei Koh, and Andrew Y. Ng. Learning deep energy models. In Getoor and Scheffer [212], pages 1105–1112.

[47] Ellen Klingbeil, Deepak Rao, Blake Carpenter, Varun Ganapathi, Andrew Y. Ng, and Oussama Khatib. Grasping with application to an autonomous checkout robot. In *IEEE International Conference on Robotics and Automation, ICRA 2011, Shanghai, China, 9-13 May 2011* [213], pages 2837–2844.

[48] Carl Case, Bipin Suresh, Adam Coates, and Andrew Y. Ng. Autonomous sign reading for semantic mapping. In *IEEE International Conference on Robotics and Automation, ICRA 2011, Shanghai, China, 9-13 May 2011* [213], pages 3297–3303.

[49] Morgan Quigley, Alan T. Asbeck, and Andrew Y. Ng. A low-cost compliant 7-dof robotic manipulator. In *IEEE International Conference on Robotics and Automation, ICRA 2011, Shanghai, China, 9-13 May 2011* [213], pages 6051–6058.

[50] Richard Socher, Eric H. Huang, Jeffrey Pennington, Andrew Y. Ng, and Christopher D. Manning. Dynamic pooling and unfolding recursive autoencoders

- for paraphrase detection. In Shawe-Taylor et al. [214], pages 801–809.
- [51] Quoc V. Le, Alexandre Karpenko, Jiquan Ngiam, and Andrew Y. Ng. ICA with reconstruction cost for efficient overcomplete feature learning. In Shawe-Taylor et al. [214], pages 1017–1025.
- [52] Jiquan Ngiam, Pang Wei Koh, Zhenghao Chen, Sonia A. Bhaskar, and Andrew Y. Ng. Sparse filtering. In Shawe-Taylor et al. [214], pages 1125–1133.
- [53] Andrew M. Saxe, Maneesh Bhand, Ritvik Mudur, Bipin Suresh, and Andrew Y. Ng. Unsupervised learning models of primary cortical receptive fields and receptive field plasticity. In Shawe-Taylor et al. [214], pages 1971–1979.
- [54] Adam Coates and Andrew Y. Ng. Selecting receptive fields in deep networks. In Shawe-Taylor et al. [214], pages 2528–2536.
- [55] Adam Coates, Andrew Y. Ng, and Honglak Lee. An analysis of single-layer networks in unsupervised feature learning. In Gordon et al. [215], pages 215–223.
- [56] Quoc V. Le, Rajat Monga, Matthieu Devin, Greg Corrado, Kai Chen, Marc’Aurelio Ranzato, Jeffrey Dean, and Andrew Y. Ng. Building high-level features using large scale unsupervised learning. *CoRR*, abs/1112.6209, 2011.
- [57] Pieter Abbeel, Adam Coates, and Andrew Y. Ng. Autonomous helicopter aerobatics through apprenticeship learning. *I. J. Robotic Res.*, 29(13):1608–1639, 2010.
- [58] Morgan Quigley, Alan T. Asbeck, and Andrew Y. Ng. Low-cost manipulation powered by ROS. In *Enabling Intelligence through Middleware, Papers from the 2010 AAAI Robot Workshop, Atlanta, Georgia, USA, July 12, 2010* [216].
- [59] Olga Russakovsky and Andrew Y. Ng. A steiner tree approach to efficient object detection. In *The Twenty-Third IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2010, San Francisco, CA, USA, 13-18 June 2010* [217], pages 1070–1077.
- [60] Adam Coates and Andrew Y. Ng. Multi-camera object detection for robotics. In *IEEE International Conference on Robotics and Automation, ICRA 2010, Anchorage, Alaska, USA, 3-7 May 2010* [218], pages 412–419.
- [61] Ellen Klingbeil, Blake Carpenter, Olga Russakovsky, and Andrew Y. Ng. Autonomous operation of novel elevators for robot navigation. In *IEEE International Conference on Robotics and Automation, ICRA 2010, Anchorage, Alaska, USA, 3-7 May 2010* [218], pages 751–758.
- [62] J. Zico Kolter, Christian Plagemann, David T. Jackson, Andrew Y. Ng, and Sebastian Thrun. A probabilistic approach to mixed open-loop and closed-loop control, with application to extreme autonomous driving. In *IEEE International Conference on Robotics and Automation, ICRA 2010, Anchorage, Alaska, USA, 3-7 May 2010* [218], pages 839–845.
- [63] Quoc V. Le, David Kamm, A. F. Kara, and Andrew Y. Ng. Learning to grasp objects with multiple contact points. In *IEEE International Conference on Robotics and Automation, ICRA 2010, Anchorage, Alaska, USA, 3-7 May 2010* [218], pages 5062–5069.
- [64] Deepak Rao, Quoc V. Le, Thanathorn Phoka, Morgan Quigley, Attawith Sudsang, and Andrew Y. Ng. Grasping novel objects with depth segmentation. In *2010 IEEE/RSJ International Conference on Intelligent Robots and Systems, October 18-22, 2010, Taipei, Taiwan* [219], pages 2578–2585.
- [65] Ellen Klingbeil, Ashutosh Saxena, and Andrew Y. Ng. Learning to open new doors. In *2010 IEEE/RSJ International Conference on Intelligent Robots and Systems, October 18-22, 2010, Taipei, Taiwan* [219], pages 2751–2757.
- [66] Morgan Quigley, Reuben D. Brewer, Sai Prashanth Soundararaj, Vijay Pradeep, Quoc V. Le, and Andrew Y. Ng. Low-cost accelerometers for robotic manipulator perception. In *2010 IEEE/RSJ International Conference on Intelligent Robots and Systems, October 18-22, 2010, Taipei, Taiwan* [219], pages 6168–6174.
- [67] J. Zico Kolter, Siddharth Batra, and Andrew Y. Ng. Energy disaggregation via discriminative sparse coding. In Lafferty et al. [220], pages 1153–1161.
- [68] Quoc V. Le, Jiquan Ngiam, Zhenghao Chen, Daniel Jin hao Chia, Pang Wei Koh, and Andrew Y. Ng. Tiled convolutional neural networks. In Lafferty et al. [220], pages 1279–1287.
- [69] Adam Coates, Pieter Abbeel, and Andrew Y. Ng. Autonomous helicopter flight using reinforcement learning. In Sammut and Webb [221], pages 53–61.



[70] Pieter Abbeel and Andrew Y. Ng. Inverse reinforcement learning. In Sammut and Webb [221], pages 554–558.

[71] Jan Peters and Andrew Y. Ng. Guest editorial: Special issue on robot learning, part A. *Auton. Robots*, 27(1):1–2, 2009.

[72] Jan Peters and Andrew Y. Ng. Guest editorial: Special issue on robot learning, part B. *Auton. Robots*, 27(2):91–92, 2009.

[73] Adam Coates, Pieter Abbeel, and Andrew Y. Ng. Apprenticeship learning for helicopter control. *Commun. ACM*, 52(7):97–105, 2009.

[74] Ashutosh Saxena, Min Sun, and Andrew Y. Ng. Make3d: Learning 3d scene structure from a single still image. *IEEE Trans. Pattern Anal. Mach. Intell.*, 31(5):824–840, 2009.

[75] Chuan-Sheng Foo, Chuong B. Do, and Andrew Y. Ng. A majorization-minimization algorithm for (multiple) hyperparameter learning. In Danyluk et al. [222], pages 321–328.

[76] J. Zico Kolter and Andrew Y. Ng. Near-bayesian exploration in polynomial time. In Danyluk et al. [222], pages 513–520.

[77] J. Zico Kolter and Andrew Y. Ng. Regularization and feature selection in least-squares temporal difference learning. In Danyluk et al. [222], pages 521–528.

[78] Honglak Lee, Roger B. Grosse, Rajesh Ranganath, and Andrew Y. Ng. Convolutional deep belief networks for scalable unsupervised learning of hierarchical representations. In Danyluk et al. [222], pages 609–616.

[79] Rajat Raina, Anand Madhavan, and Andrew Y. Ng. Large-scale deep unsupervised learning using graphics processors. In Danyluk et al. [222], pages 873–880.

[80] Ashutosh Saxena, Justin Driemeyer, and Andrew Y. Ng. Learning 3-d object orientation from images. In *2009 IEEE International Conference on Robotics and Automation, ICRA 2009, Kobe, Japan, May 12-17, 2009* [223], pages 794–800.

[81] J. Zico Kolter, Youngjun Kim, and Andrew Y. Ng. Stereo vision and terrain modeling for quadruped robots. In *2009 IEEE International Conference on Robotics and Automation, ICRA 2009, Kobe, Japan, May 12-17, 2009* [223], pages 1557–1564.

[82] J. Zico Kolter and Andrew Y. Ng. Task-space trajectories via cubic spline optimization. In *2009 IEEE International Conference on Robotics and Automation, ICRA 2009, Kobe, Japan, May 12-17, 2009* [223], pages 1675–1682.

[83] Ashutosh Saxena and Andrew Y. Ng. Learning sound location from a single microphone. In *2009 IEEE International Conference on Robotics and Automation, ICRA 2009, Kobe, Japan, May 12-17, 2009* [223], pages 1737–1742.

[84] Kaijen Hsiao, Paul Nangeroni, Manfred Huber, Ashutosh Saxena, and Andrew Y. Ng. Reactive grasping using optical proximity sensors. In *2009 IEEE International Conference on Robotics and Automation, ICRA 2009, Kobe, Japan, May 12-17, 2009* [223], pages 2098–2105.

[85] Morgan Quigley, Siddharth Batra, Stephen Gould, Ellen Klingbeil, Quoc V. Le, Ashley Wellman, and Andrew Y. Ng. High-accuracy 3d sensing for mobile manipulation: Improving object detection and door opening. In *2009 IEEE International Conference on Robotics and Automation, ICRA 2009, Kobe, Japan, May 12-17, 2009* [223], pages 2816–2822.

[86] Honglak Lee, Rajat Raina, Alex Teichman, and Andrew Y. Ng. Exponential family sparse coding with application to self-taught learning. In Boutilier [224], pages 1113–1119.

[87] Quoc V. Le and Andrew Y. Ng. Joint calibration of multiple sensors. In *2009 IEEE/RSJ International Conference on Intelligent Robots and Systems, October 11-15, 2009, St. Louis, MO, USA* [225], pages 3651–3658.

[88] Adam Coates, Paul Baumstarck, Quoc V. Le, and Andrew Y. Ng. Scalable learning for object detection with GPU hardware. In *2009 IEEE/RSJ International Conference on Intelligent Robots and Systems, October 11-15, 2009, St. Louis, MO, USA* [225], pages 4287–4293.

[89] Ian J. Goodfellow, Quoc V. Le, Andrew M. Saxe, Honglak Lee, and Andrew Y. Ng. Measuring invariances in deep networks. In Bengio et al. [226], pages 646–654.

[90] Honglak Lee, Peter T. Pham, Yan Largman, and Andrew Y. Ng. Unsupervised feature learning for audio classification using convolutional deep belief networks. In Bengio et al. [226], pages 1096–1104.

[91] J. Zico Kolter and Andrew Y. Ng. Policy search via the signed derivative. In Trinkle et al. [227].

- [92] Savil Srivastava, Ashutosh Saxena, Christian Theobalt, Sebastian Thrun, and Andrew Y. Ng. i23 - rapid interactive 3d reconstruction from a single image. In Magnor et al. [228], pages 19–28.
- [93] Jeff A. Bilmes and Andrew Y. Ng, editors. *UAI 2009, Proceedings of the Twenty-Fifth Conference on Uncertainty in Artificial Intelligence, Montreal, QC, Canada, June 18-21, 2009*. AUAI Press, 2009.
- [94] Ashutosh Saxena, Sung H. Chung, and Andrew Y. Ng. 3-d depth reconstruction from a single still image. *International Journal of Computer Vision*, 76(1):53–69, 2008.
- [95] Ashutosh Saxena, Justin Driemeyer, and Andrew Y. Ng. Robotic grasping of novel objects using vision. *I. J. Robotic Res.*, 27(2):157–173, 2008.
- [96] Benjamin Sapp, Ashutosh Saxena, and Andrew Y. Ng. A fast data collection and augmentation procedure for object recognition. In Fox and Gomes [229], pages 1402–1408.
- [97] Ashutosh Saxena, Lawson L. S. Wong, and Andrew Y. Ng. Learning grasp strategies with partial shape information. In Fox and Gomes [229], pages 1491–1494.
- [98] Ashutosh Saxena, Min Sun, and Andrew Y. Ng. Make3d: Depth perception from a single still image. In Fox and Gomes [229], pages 1571–1576.
- [99] Rion Snow, Brendan O’Connor, Daniel Jurafsky, and Andrew Y. Ng. Cheap and fast - but is it good? evaluating non-expert annotations for natural language tasks. In *2008 Conference on Empirical Methods in Natural Language Processing, EMNLP 2008, Proceedings of the Conference, 25-27 October 2008, Honolulu, Hawaii, USA, A meeting of SIGDAT, a Special Interest Group of the ACL* [230], pages 254–263.
- [100] Adam Coates, Pieter Abbeel, and Andrew Y. Ng. Learning for control from multiple demonstrations. In Cohen et al. [231], pages 144–151.
- [101] J. Zico Kolter, Adam Coates, Andrew Y. Ng, Yi Gu, and Charles DuHadway. Space-indexed dynamic programming: learning to follow trajectories. In Cohen et al. [231], pages 488–495.
- [102] J. Zico Kolter, Mike P. Rodgers, and Andrew Y. Ng. A control architecture for quadruped locomotion over rough terrain. In *2008 IEEE International Conference on Robotics and Automation, ICRA 2008, May 19-23, 2008, Pasadena, California, USA* [232], pages 811–818.
- [103] Pieter Abbeel, Dmitri Dolgov, Andrew Y. Ng, and Sebastian Thrun. Apprenticeship learning for motion planning with application to parking lot navigation. In *2008 IEEE/RSJ International Conference on Intelligent Robots and Systems, September 22-26, 2008, Acropolis Convention Center, Nice, France* [233], pages 1083–1090.
- [104] Pieter Abbeel, Adam Coates, Timothy Hunter, and Andrew Y. Ng. Autonomous autorotation of an RC helicopter. In Khatib et al. [234], pages 385–394.
- [105] Masayoshi Matsuoka, Alan Chen, Surya P. N. Singh, Adam Coates, Andrew Y. Ng, and Sebastian Thrun. Autonomous helicopter tracking and localization using a self-surveying camera array. *I. J. Robotic Res.*, 26(2):205–215, 2007.
- [106] Rion Snow, Sushant Prakash, Daniel Jurafsky, and Andrew Y. Ng. Learning to merge word senses. In Eisner [235], pages 1005–1014.
- [107] Ashutosh Saxena, Min Sun, and Andrew Y. Ng. Learning 3-d scene structure from a single still image. In *IEEE 11th International Conference on Computer Vision, ICCV 2007, Rio de Janeiro, Brazil, October 14-20, 2007* [236], pages 1–8.
- [108] Ashutosh Saxena, Min Sun, and Andrew Y. Ng. 3-d reconstruction from sparse views using monocular vision. In *IEEE 11th International Conference on Computer Vision, ICCV 2007, Rio de Janeiro, Brazil, October 14-20, 2007* [236], pages 1–8.
- [109] Rajat Raina, Alexis Battle, Honglak Lee, Benjamin Packer, and Andrew Y. Ng. Self-taught learning: transfer learning from unlabeled data. In Ghahramani [237], pages 759–766.
- [110] Stephen Gould, Joakim Arfvidsson, Adrian Kaehler, Benjamin Sapp, Marius Messner, Gary R. Bradski, Paul Baumstarck, Sukwon Chung, and Andrew Y. Ng. Peripheral-foveal vision for real-time object recognition and tracking in video. In Veloso [238], pages 2115–2121.
- [111] Anna Petrovskaya and Andrew Y. Ng. Probabilistic mobile manipulation in dynamic environments, with application to opening doors. In Veloso [238], pages 2178–2184.
- [112] Ashutosh Saxena, Jamie Schulte, and Andrew Y. Ng. Depth estimation using monocular and stereo cues. In Veloso [238], pages 2197–2203.
- [113] Ted Kremenek, Andrew Y. Ng, and Dawson R. Engler. A factor graph model for software bug finding. In Veloso [238], pages 2510–2516.

[114] Ashutosh Saxena, Lawson L. S. Wong, Morgan Quigley, and Andrew Y. Ng. A vision-based system for grasping novel objects in cluttered environments. In Kaneko and Nakamura [239], pages 337–348.

[115] Chuong B. Do, Chuan-Sheng Foo, and Andrew Y. Ng. Efficient multiple hyperparameter learning for log-linear models. In Platt et al. [240], pages 377–384.

[116] J. Zico Kolter, Pieter Abbeel, and Andrew Y. Ng. Hierarchical apprenticeship learning with application to quadruped locomotion. In Platt et al. [240], pages 769–776.

[117] Honglak Lee, Chaitanya Ekanadham, and Andrew Y. Ng. Sparse deep belief net model for visual area V2. In Platt et al. [240], pages 873–880.

[118] J. Zico Kolter and Andrew Y. Ng. Learning omnidirectional path following using dimensionality reduction. In Burgard et al. [241].

[119] Roger B. Grosse, Rajat Raina, Helen Kwong, and Andrew Y. Ng. Shift-invariance sparse coding for audio classification. In Parr and van der Gaag [242], pages 149–158.

[120] Pieter Abbeel, Daphne Koller, and Andrew Y. Ng. Learning factor graphs in polynomial time and sample complexity. *Journal of Machine Learning Research*, 7:1743–1788, 2006.

[121] Su-In Lee, Honglak Lee, Pieter Abbeel, and Andrew Y. Ng. Efficient L1 regularized logistic regression. In *Proceedings, The Twenty-First National Conference on Artificial Intelligence and the Eighteenth Innovative Applications of Artificial Intelligence Conference, July 16-20, 2006, Boston, Massachusetts, USA* [243], pages 401–408.

[122] Rion Snow, Daniel Jurafsky, and Andrew Y. Ng. Semantic taxonomy induction from heterogeneous evidence. In Calzolari et al. [244].

[123] Andrew Y. Ng. Reinforcement learning and apprenticeship learning for robotic control. In Balcázar et al. [245], pages 29–31.

[124] Mike Brzozowski, Kendra Carattini, Scott R. Klemmer, Patrick Mihelich, Jiang Hu, and Andrew Y. Ng. grouptime: preference based group scheduling. In Grinter et al. [246], pages 1047–1056.

[125] Erick Delage, Honglak Lee, and Andrew Y. Ng. A dynamic bayesian network model for autonomous 3d reconstruction from a single indoor image. In *2006 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR 2006), 17-22 June 2006, New York, NY, USA* [247], pages 2418–2428.

[126] Andrew Y. Ng. Reinforcement learning and apprenticeship learning for robotic control. In Todorovski et al. [248], page 14.

[127] Jenny Rose Finkel, Christopher D. Manning, and Andrew Y. Ng. Solving the problem of cascading errors: Approximate bayesian inference for linguistic annotation pipelines. In Jurafsky and Gaussier [249], pages 618–626.

[128] Pieter Abbeel, Morgan Quigley, and Andrew Y. Ng. Using inaccurate models in reinforcement learning. In Cohen and Moore [250], pages 1–8.

[129] Rajat Raina, Andrew Y. Ng, and Daphne Koller. Constructing informative priors using transfer learning. In Cohen and Moore [250], pages 713–720.

[130] Anna Petrovskaya, Oussama Khatib, Sebastian Thrun, and Andrew Y. Ng. Bayesian estimation for autonomous object manipulation based on tactile sensors. In *Proceedings of the 2006 IEEE International Conference on Robotics and Automation, ICRA 2006, May 15-19, 2006, Orlando, Florida, USA* [251], pages 707–714.

[131] Honglak Lee, Yirong Shen, Chih-Han Yu, Gurjeet Singh, and Andrew Y. Ng. Quadruped robot obstacle negotiation via reinforcement learning. In *Proceedings of the 2006 IEEE International Conference on Robotics and Automation, ICRA 2006, May 15-19, 2006, Orlando, Florida, USA* [251], pages 3003–3010.

[132] Filip Krsmanovic, Curtis Spencer, Daniel Jurafsky, and Andrew Y. Ng. Have we met? MDP based speaker ID for robot dialogue. In *INTERSPEECH 2006 - ICSLP, Ninth International Conference on Spoken Language Processing, Pittsburgh, PA, USA, September 17-21, 2006* [252].

[133] Ashutosh Saxena, Justin Driemeyer, Justin Kearns, Chioma Osondu, and Andrew Y. Ng. Learning to grasp novel objects using vision. In Khatib et al. [253], pages 33–42.

[134] Pieter Abbeel, Adam Coates, Morgan Quigley, and Andrew Y. Ng. An application of reinforcement learning to aerobatic helicopter flight. In Schölkopf et al. [254], pages 1–8.



- [135] Cheng-Tao Chu, Sang Kyun Kim, Yi-An Lin, YuanYuan Yu, Gary R. Bradski, Andrew Y. Ng, and Kunle Olukotun. Map-reduce for machine learning on multicore. In Schölkopf et al. [254], pages 281–288.
- [136] Honglak Lee, Alexis Battle, Rajat Raina, and Andrew Y. Ng. Efficient sparse coding algorithms. In Schölkopf et al. [254], pages 801–808.
- [137] Ashutosh Saxena, Justin Driemeyer, Justin Kearns, and Andrew Y. Ng. Robotic grasping of novel objects. In Schölkopf et al. [254], pages 1209–1216.
- [138] Ted Kremenek, Paul Twohey, Godmar Back, Andrew Y. Ng, and Dawson R. Engler. From uncertainty to belief: Inferring the specification within. In Bershad and Mogul [255], pages 161–176.
- [139] Einat Minkov, William W. Cohen, and Andrew Y. Ng. Contextual search and name disambiguation in email using graphs. In Efthimiadis et al. [256], pages 27–34.
- [140] David Heckerman, Tom Berson, Joshua Goodman, and Andrew Y. Ng. The first conference on e-mail and anti-spam. *AI Magazine*, 26(1):96, 2005.
- [141] Rajat Raina, Andrew Y. Ng, and Christopher D. Manning. Robust textual inference via learning and abductive reasoning. In Veloso and Kambhampati [257], pages 1099–1105.
- [142] Honglak Lee and Andrew Y. Ng. Spam deobfuscation using a hidden markov model. In *CEAS 2005 - Second Conference on Email and Anti-Spam, July 21-22, 2005, Stanford University, California, USA* [258].
- [143] Dragomir Anguelov, Benjamin Taskar, Vassil Chatalbashev, Daphne Koller, Dinkar Gupta, Jeremy Heitz, and Andrew Y. Ng. Discriminative learning of markov random fields for segmentation of 3d scan data. In *2005 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR 2005), 20-26 June 2005, San Diego, CA, USA* [259], pages 169–176.
- [144] Masayoshi Matsuoka, Alan Chen, Surya P. N. Singh, Adam Coates, Andrew Y. Ng, and Sebastian Thrun. Autonomous helicopter tracking and localization using a self-surveying camera array. In Corke and Sukkarieh [260], pages 19–30.
- [145] Pieter Abbeel and Andrew Y. Ng. Exploration and apprenticeship learning in reinforcement learning. In Raedt and Wrobel [261], pages 1–8.
- [146] Jeff Michels, Ashutosh Saxena, and Andrew Y. Ng. High speed obstacle avoidance using monocular vision and reinforcement learning. In Raedt and Wrobel [261], pages 593–600.
- [147] Erick Delage, Honglak Lee, and Andrew Y. Ng. Automatic single-image 3d reconstructions of indoor manhattan world scenes. In Thrun et al. [262], pages 305–321.
- [148] Aria Haghighi, Andrew Y. Ng, and Christopher D. Manning. Robust textual inference via graph matching. In *HLT/EMNLP 2005, Human Language Technology Conference and Conference on Empirical Methods in Natural Language Processing, Proceedings of the Conference, 6-8 October 2005, Vancouver, British Columbia, Canada* [263].
- [149] Pieter Abbeel, Varun Ganapathi, and Andrew Y. Ng. Learning vehicular dynamics, with application to modeling helicopters. In *Advances in Neural Information Processing Systems 18 [Neural Information Processing Systems, NIPS 2005, December 5-8, 2005, Vancouver, British Columbia, Canada]* [264], pages 1–8.
- [150] J. Andrew Bagnell and Andrew Y. Ng. On local rewards and scaling distributed reinforcement learning. In *Advances in Neural Information Processing Systems 18 [Neural Information Processing Systems, NIPS 2005, December 5-8, 2005, Vancouver, British Columbia, Canada]* [264], pages 91–98.
- [151] Chuong B. Do and Andrew Y. Ng. Transfer learning for text classification. In *Advances in Neural Information Processing Systems 18 [Neural Information Processing Systems, NIPS 2005, December 5-8, 2005, Vancouver, British Columbia, Canada]* [264], pages 299–306.
- [152] Ashutosh Saxena, Sung H. Chung, and Andrew Y. Ng. Learning depth from single monocular images. In *Advances in Neural Information Processing Systems 18 [Neural Information Processing Systems, NIPS 2005, December 5-8, 2005, Vancouver, British Columbia, Canada]* [264], pages 1161–1168.
- [153] Yirong Shen, Andrew Y. Ng, and Matthias W. Seeger. Fast gaussian process regression using kd-trees. In *Advances in Neural Information Processing Systems 18 [Neural Information Processing Systems, NIPS 2005, December 5-8, 2005, Vancouver, British Columbia, Canada]* [264], pages 1225–1232.
- [154] Pieter Abbeel, Adam Coates, Michael Montemerlo, Andrew Y. Ng, and Sebastian Thrun. Discriminative



- training of kalman filters. In Thrun et al. [265], pages 289–296.
- [155] Pieter Abbeel, Daphne Koller, and Andrew Y. Ng. Learning factor graphs in polynomial time & sample complexity. In *UAI '05, Proceedings of the 21st Conference in Uncertainty in Artificial Intelligence, Edinburgh, Scotland, July 26-29, 2005* [266], pages 1–9.
- [156] Sebastian Thrun, Yufeng Liu, Daphne Koller, Andrew Y. Ng, Zoubin Ghahramani, and Hugh F. Durrant-Whyte. Simultaneous localization and mapping with sparse extended information filters. *I. J. Robotic Res.*, 23(7-8):693–716, 2004.
- [157] Pieter Abbeel and Andrew Y. Ng. Apprenticeship learning via inverse reinforcement learning. In Brodley [267].
- [158] Shai Shalev-Shwartz, Yoram Singer, and Andrew Y. Ng. Online and batch learning of pseudo-metrics. In Brodley [267].
- [159] Kristina Toutanova, Christopher D. Manning, and Andrew Y. Ng. Learning random walk models for inducing word dependency distributions. In Brodley [267].
- [160] Andrew Y. Ng, Adam Coates, Mark Diel, Varun Ganapathi, Jamie Schulte, Ben Tse, Eric Berger, and Eric Liang. Autonomous inverted helicopter flight via reinforcement learning. In Jr. and Khatib [268], pages 363–372.
- [161] Pieter Abbeel and Andrew Y. Ng. Learning first-order markov models for control. In *Advances in Neural Information Processing Systems 17 [Neural Information Processing Systems, NIPS 2004, December 13-18, 2004, Vancouver, British Columbia, Canada]* [269], pages 1–8.
- [162] Sham M. Kakade and Andrew Y. Ng. Online bounds for bayesian algorithms. In *Advances in Neural Information Processing Systems 17 [Neural Information Processing Systems, NIPS 2004, December 13-18, 2004, Vancouver, British Columbia, Canada]* [269], pages 641–648.
- [163] Andrew Y. Ng and H. Jin Kim. Stable adaptive control with online learning. In *Advances in Neural Information Processing Systems 17 [Neural Information Processing Systems, NIPS 2004, December 13-18, 2004, Vancouver, British Columbia, Canada]* [269], pages 977–984.
- [164] Rion Snow, Daniel Jurafsky, and Andrew Y. Ng. Learning syntactic patterns for automatic hypernym discovery. In *Advances in Neural Information Processing Systems 17 [Neural Information Processing Systems, NIPS 2004, December 13-18, 2004, Vancouver, British Columbia, Canada]* [269], pages 1297–1304.
- [165] David M. Blei, Andrew Y. Ng, and Michael I. Jordan. Latent dirichlet allocation. *Journal of Machine Learning Research*, 3:993–1022, 2003.
- [166] Rajat Raina, Yirong Shen, Andrew Y. Ng, and Andrew McCallum. Classification with hybrid generative/discriminative models. In Thrun et al. [270], pages 545–552.
- [167] Andrew Y. Ng, H. Jin Kim, Michael I. Jordan, and Shankar Sastry. Autonomous helicopter flight via reinforcement learning. In Thrun et al. [270], pages 799–806.
- [168] J. Andrew Bagnell, Sham Kakade, Andrew Y. Ng, and Jeff G. Schneider. Policy search by dynamic programming. In Thrun et al. [270], pages 831–838.
- [169] Michael J. Kearns, Yishay Mansour, and Andrew Y. Ng. A sparse sampling algorithm for near-optimal planning in large markov decision processes. *Machine Learning*, 49(2-3):193–208, 2002.
- [170] Eric P. Xing, Andrew Y. Ng, Michael I. Jordan, and Stuart J. Russell. Distance metric learning with application to clustering with side-information. In Becker et al. [271], pages 505–512.
- [171] Susan T. Dumais, Michele Banko, Eric Brill, Jimmy J. Lin, and Andrew Y. Ng. Web question answering: is more always better? In *SIGIR 2002: Proceedings of the 25th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, August 11-15, 2002, Tampere, Finland* [272], pages 291–298.
- [172] Sebastian Thrun, Daphne Koller, Zoubin Ghahramani, Hugh Durrant-Whyte, and Andrew Y. Ng. Simultaneous mapping and localization with sparse extended information filters: Theory and initial results. In Boissonnat et al. [273], pages 363–380.
- [173] Andrew Y. Ng and Michael I. Jordan. Convergence rates of the voting gibbs classifier, with application to bayesian feature selection. In Brodley and Danyluk [274], pages 377–384.
- [174] Andrew Y. Ng, Alice X. Zheng, and Michael I. Jordan. Link analysis, eigenvectors and stability. In Nebel [275], pages 903–910.

[175] David M. Blei, Andrew Y. Ng, and Michael I. Jordan. Latent dirichlet allocation. In Dietterich et al. [276], pages 601–608.

[176] Andrew Y. Ng and Michael I. Jordan. On discriminative vs. generative classifiers: A comparison of logistic regression and naive bayes. In Dietterich et al. [276], pages 841–848.

[177] Andrew Y. Ng, Michael I. Jordan, and Yair Weiss. On spectral clustering: Analysis and an algorithm. In Dietterich et al. [276], pages 849–856.

[178] Alice X. Zheng, Andrew Y. Ng, and Michael I. Jordan. Stable algorithms for link analysis. In Croft et al. [277], pages 258–266.

[179] Eric Brill, Jimmy J. Lin, Michele Banko, Susan T. Dumais, and Andrew Y. Ng. Data-intensive question answering. In Voorhees and Harman [278].

[180] Andrew Y. Ng and Stuart J. Russell. Algorithms for inverse reinforcement learning. In Langley [279], pages 663–670.

[181] Andrew Y. Ng and Michael I. Jordan. PEGASUS: A policy search method for large mdps and pomdps. In Boutilier and Goldszmidt [280], pages 406–415.

[182] Andrew Y. Ng, Daishi Harada, and Stuart J. Russell. Policy invariance under reward transformations: Theory and application to reward shaping. In Bratko and Dzeroski [281], pages 278–287.

[183] Michael J. Kearns, Yishay Mansour, and Andrew Y. Ng. A sparse sampling algorithm for near-optimal planning in large markov decision processes. In Dean [282], pages 1324–1231.

[184] Andrew Y. Ng and Michael I. Jordan. Approximate inference Algorithms for two-layer bayesian networks. In Solla et al. [283], pages 533–539.

[185] Michael J. Kearns, Yishay Mansour, and Andrew Y. Ng. Approximate planning in large pomdps via reusable trajectories. In Solla et al. [283], pages 1001–1007.

[186] Andrew Y. Ng, Ronald Parr, and Daphne Koller. Policy search via density estimation. In Solla et al. [283], pages 1022–1028.

[187] Scott Davies, Andrew Y. Ng, and Andrew W. Moore. Applying online search techniques to continuous-state reinforcement learning. In Mostow and Rich [284], pages 753–760.

[188] Andrew McCallum, Ronald Rosenfeld, Tom M. Mitchell, and Andrew Y. Ng. Improving text classification by shrinkage in a hierarchy of classes. In Shavlik [285], pages 359–367.

[189] Andrew Y. Ng. On feature selection: Learning with exponentially many irrelevant features as training examples. In Shavlik [285], pages 404–412.

[190] Michael J. Kearns, Yishay Mansour, Andrew Y. Ng, and Dana Ron. An experimental and theoretical comparison of model selection methods. *Machine Learning*, 27(1):7–50, 1997.

[191] Andrew Y. Ng. Preventing ”overfitting” of cross-validation data. In Fisher [286], pages 245–253.

[192] Michael J. Kearns, Yishay Mansour, and Andrew Y. Ng. An information-theoretic analysis of hard and soft assignment methods for clustering. In Geiger and Shenoy [287], pages 282–293.

[193] Michael J. Kearns, Yishay Mansour, Andrew Y. Ng, and Dana Ron. An experimental and theoretical comparison of model selection methods. In Maass [288], pages 21–30.

[194] Rada Mihalcea, Joyce Yue Chai, and Anoop Sarkar, editors. *NAACL HLT 2015, The 2015 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Denver, Colorado, USA, May 31 - June 5, 2015*. The Association for Computational Linguistics, 2015.

[195] *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics, ACL 2013, 4-9 August 2013, Sofia, Bulgaria, Volume 1: Long Papers*. The Association for Computer Linguistics, 2013. 2

[196] Qi He, Arun Iyengar, Wolfgang Nejdl, Jian Pei, and Rajeev Rastogi, editors. *22nd ACM International Conference on Information and Knowledge Management, CIKM’13, San Francisco, CA, USA, October 27 - November 1, 2013*. ACM, 2013. 2

[197] Sidney K. D’Mello, Rafael A. Calvo, and Andrew Olney, editors. *Proceedings of the 6th International Conference on Educational Data Mining, Memphis, Tennessee, USA, July 6-9, 2013*. International Educational Data Mining Society, 2013. 2

[198] *Proceedings of the 30th International Conference on Machine Learning, ICML 2013, Atlanta, GA, USA, 16-21 June 2013*, volume 28 of *JMLR Proceedings*. JMLR.org, 2013. 2

[199] Inderjit S. Dhillon, Yehuda Koren, Rayid Ghani, Ted E. Senator, Paul Bradley, Rajesh Parekh, Jingrui He, Robert L. Grossman, and Ramasamy Uthrusamy, editors. *The 19th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, KDD 2013, Chicago, IL, USA, August 11-14, 2013*. ACM, 2013. 2

[200] Christopher J. C. Burges, Léon Bottou, Zoubin Ghahramani, and Kilian Q. Weinberger, editors. *Advances in Neural Information Processing Systems 26: 27th Annual Conference on Neural Information Processing Systems 2013. Proceedings of a meeting held December 5-8, 2013, Lake Tahoe, Nevada, United States, 2013*. 2

[201] *The 50th Annual Meeting of the Association for Computational Linguistics, Proceedings of the Conference, July 8-14, 2012, Jeju Island, Korea - Volume 1: Long Papers*. The Association for Computer Linguistics, 2012. 2

[202] Jun'ichi Tsujii, James Henderson, and Marius Pasca, editors. *Proceedings of the 2012 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning, EMNLP-CoNLL 2012, July 12-14, 2012, Jeju Island, Korea*. ACL, 2012. 2

[203] *Proceedings of the 29th International Conference on Machine Learning, ICML 2012, Edinburgh, Scotland, UK, June 26 - July 1, 2012*. icml.cc / Omnipress, 2012. 2

[204] *Proceedings of the 21st International Conference on Pattern Recognition, ICPR 2012, Tsukuba, Japan, November 11-15, 2012*. IEEE Computer Society, 2012. 2

[205] *INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association, Portland, Oregon, USA, September 9-13, 2012*. ISCA, 2012. 2

[206] Peter L. Bartlett, Fernando C. N. Pereira, Christopher J. C. Burges, Léon Bottou, and Kilian Q. Weinberger, editors. *Advances in Neural Information Processing Systems 25: 26th Annual Conference on Neural Information Processing Systems 2012. Proceedings of a meeting held December 3-6, 2012, Lake Tahoe, Nevada, United States, 2012*. 2, 3

[207] Grégoire Montavon, Genevieve B. Orr, and Klaus-Robert Müller, editors. *Neural Networks: Tricks of the Trade - Second Edition*, volume 7700 of *Lecture Notes in Computer Science*. Springer, 2012. 3

[208] Dekang Lin, Yuji Matsumoto, and Rada Mihalcea, editors. *The 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies, Proceedings of the Conference, 19-24 June, 2011, Portland, Oregon, USA*. The Association for Computer Linguistics, 2011. 3

[209] *The 24th IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2011, Colorado Springs, CO, USA, 20-25 June 2011*. IEEE Computer Society, 2011. 3

[210] *Proceedings of the 2011 Conference on Empirical Methods in Natural Language Processing, EMNLP 2011, 27-31 July 2011, John McIntyre Conference Centre, Edinburgh, UK, A meeting of SIGDAT, a Special Interest Group of the ACL*. ACL, 2011. 3

[211] *2011 International Conference on Document Analysis and Recognition, ICDAR 2011, Beijing, China, September 18-21, 2011*. IEEE Computer Society, 2011. 3

[212] Lise Getoor and Tobias Scheffer, editors. *Proceedings of the 28th International Conference on Machine Learning, ICML 2011, Bellevue, Washington, USA, June 28 - July 2, 2011*. Omnipress, 2011. 3

[213] *IEEE International Conference on Robotics and Automation, ICRA 2011, Shanghai, China, 9-13 May 2011*. IEEE, 2011. 3

[214] John Shawe-Taylor, Richard S. Zemel, Peter L. Bartlett, Fernando C. N. Pereira, and Kilian Q. Weinberger, editors. *Advances in Neural Information Processing Systems 24: 25th Annual Conference on Neural Information Processing Systems 2011. Proceedings of a meeting held 12-14 December 2011, Granada, Spain, 2011*. 4

[215] Geoffrey J. Gordon, David B. Dunson, and Miroslav Dudík, editors. *Proceedings of the Fourteenth International Conference on Artificial Intelligence and Statistics, AISTATS 2011, Fort Lauderdale, USA, April 11-13, 2011*, volume 15 of *JMLR Proceedings*. JMLR.org, 2011. 4

[216] *Enabling Intelligence through Middleware, Papers from the 2010 AAAI Robot Workshop, Atlanta, Georgia, USA, July 12, 2010*, volume WS-10-09 of *AAAI Workshops*. AAAI, 2010. 4

[217] *The Twenty-Third IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2010, San Francisco, CA, USA, 13-18 June 2010*. IEEE Computer Society, 2010. 4



[218] *IEEE International Conference on Robotics and Automation, ICRA 2010, Anchorage, Alaska, USA, 3-7 May 2010*. IEEE, 2010. 4

[219] *2010 IEEE/RSJ International Conference on Intelligent Robots and Systems, October 18-22, 2010, Taipei, Taiwan*. IEEE, 2010. 4

[220] John D. Lafferty, Christopher K. I. Williams, John Shawe-Taylor, Richard S. Zemel, and Aron Culotta, editors. *Advances in Neural Information Processing Systems 23: 24th Annual Conference on Neural Information Processing Systems 2010. Proceedings of a meeting held 6-9 December 2010, Vancouver, British Columbia, Canada*. Curran Associates, Inc., 2010. 4

[221] Claude Sammut and Geoffrey I. Webb, editors. *Encyclopedia of Machine Learning*. Springer, 2010. 4, 5

[222] Andrea Pohoreckyj Danyluk, Léon Bottou, and Michael L. Littman, editors. *Proceedings of the 26th Annual International Conference on Machine Learning, ICML 2009, Montreal, Quebec, Canada, June 14-18, 2009*, volume 382 of *ACM International Conference Proceeding Series*. ACM, 2009. 5

[223] *2009 IEEE International Conference on Robotics and Automation, ICRA 2009, Kobe, Japan, May 12-17, 2009*. IEEE, 2009. 5

[224] Craig Boutilier, editor. *IJCAI 2009, Proceedings of the 21st International Joint Conference on Artificial Intelligence, Pasadena, California, USA, July 11-17, 2009*. 2009. 5

[225] *2009 IEEE/RSJ International Conference on Intelligent Robots and Systems, October 11-15, 2009, St. Louis, MO, USA*. IEEE, 2009. 5

[226] Yoshua Bengio, Dale Schuurmans, John D. Lafferty, Christopher K. I. Williams, and Aron Culotta, editors. *Advances in Neural Information Processing Systems 22: 23rd Annual Conference on Neural Information Processing Systems 2009. Proceedings of a meeting held 7-10 December 2009, Vancouver, British Columbia, Canada*. Curran Associates, Inc., 2009. 5

[227] Jeff Trinkle, Yoky Matsuoka, and José A. Castellanos, editors. *Robotics: Science and Systems V, University of Washington, Seattle, USA, June 28 - July 1, 2009*. The MIT Press, 2010. 5

[228] Marcus A. Magnor, Bodo Rosenhahn, and Holger Theisel, editors. *Proceedings of the Vision, Modeling, and Visualization Workshop 2009, November 16-18, 2009, Braunschweig, Germany*. DNB, 2009. 6

[229] Dieter Fox and Carla P. Gomes, editors. *Proceedings of the Twenty-Third AAAI Conference on Artificial Intelligence, AAAI 2008, Chicago, Illinois, USA, July 13-17, 2008*. AAAI Press, 2008. 6

[230] *2008 Conference on Empirical Methods in Natural Language Processing, EMNLP 2008, Proceedings of the Conference, 25-27 October 2008, Honolulu, Hawaii, USA, A meeting of SIGDAT, a Special Interest Group of the ACL*. ACL, 2008. 6

[231] William W. Cohen, Andrew McCallum, and Sam T. Roweis, editors. *Machine Learning, Proceedings of the Twenty-Fifth International Conference (ICML 2008), Helsinki, Finland, June 5-9, 2008*, volume 307 of *ACM International Conference Proceeding Series*. ACM, 2008. 6

[232] *2008 IEEE International Conference on Robotics and Automation, ICRA 2008, May 19-23, 2008, Pasadena, California, USA*. IEEE, 2008. 6

[233] *2008 IEEE/RSJ International Conference on Intelligent Robots and Systems, September 22-26, 2008, Acropolis Convention Center, Nice, France*. IEEE, 2008. 6

[234] Oussama Khatib, Vijay Kumar, and George J. Pappas, editors. *Experimental Robotics, The Eleventh International Symposium, ISER 2008, July 13-16, 2008, Athens, Greece*, volume 54 of *Springer Tracts in Advanced Robotics*. Springer, 2009. 6

[235] Jason Eisner, editor. *EMNLP-CoNLL 2007, Proceedings of the 2007 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning, June 28-30, 2007, Prague, Czech Republic*. ACL, 2007. 6

[236] *IEEE 11th International Conference on Computer Vision, ICCV 2007, Rio de Janeiro, Brazil, October 14-20, 2007*. IEEE, 2007. 6

[237] Zoubin Ghahramani, editor. *Machine Learning, Proceedings of the Twenty-Fourth International Conference (ICML 2007), Corvallis, Oregon, USA, June 20-24, 2007*, volume 227 of *ACM International Conference Proceeding Series*. ACM, 2007. 6



[238] Manuela M. Veloso, editor. *IJCAI 2007, Proceedings of the 20th International Joint Conference on Artificial Intelligence, Hyderabad, India, January 6-12, 2007*, 2007. 6

[239] Makoto Kaneko and Yoshihiko Nakamura, editors. *Robotics Research - The 13th International Symposium, ISRR 2007, November 26-29, 2007 in Hiroshima, Japan*, volume 66 of *Springer Tracts in Advanced Robotics*. Springer, 2011. 7

[240] John C. Platt, Daphne Koller, Yoram Singer, and Sam T. Roweis, editors. *Advances in Neural Information Processing Systems 20, Proceedings of the Twenty-First Annual Conference on Neural Information Processing Systems, Vancouver, British Columbia, Canada, December 3-6, 2007*. Curran Associates, Inc., 2008. 7

[241] Wolfram Burgard, Oliver Brock, and Cyrill Stachniss, editors. *Robotics: Science and Systems III, June 27-30, 2007, Georgia Institute of Technology, Atlanta, Georgia, USA*. The MIT Press, 2008. 7

[242] Ronald Parr and Linda C. van der Gaag, editors. *UAI 2007, Proceedings of the Twenty-Third Conference on Uncertainty in Artificial Intelligence, Vancouver, BC, Canada, July 19-22, 2007*. AUAI Press, 2007. 7

[243] *Proceedings, The Twenty-First National Conference on Artificial Intelligence and the Eighteenth Innovative Applications of Artificial Intelligence Conference, July 16-20, 2006, Boston, Massachusetts, USA*. AAAI Press, 2006. 7

[244] Nicoletta Calzolari, Claire Cardie, and Pierre Isabelle, editors. *ACL 2006, 21st International Conference on Computational Linguistics and 44th Annual Meeting of the Association for Computational Linguistics, Proceedings of the Conference, Sydney, Australia, 17-21 July 2006*. The Association for Computer Linguistics, 2006. 7

[245] José L. Balcázar, Philip M. Long, and Frank Stephan, editors. *Algorithmic Learning Theory, 17th International Conference, ALT 2006, Barcelona, Spain, October 7-10, 2006, Proceedings*, volume 4264 of *Lecture Notes in Computer Science*. Springer, 2006. 7

[246] Rebecca E. Grinter, Tom Rodden, Paul M. Aoki, Edward Cutrell, Robin Jeffries, and Gary M. Olson, editors. *Proceedings of the 2006 Conference on Human Factors in Computing Systems, CHI 2006, Montréal, Québec, Canada, April 22-27, 2006*. ACM, 2006. 7

[247] *2006 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR 2006), 17-22 June 2006, New York, NY, USA*. IEEE Computer Society, 2006. 7

[248] Ljupco Todorovski, Nada Lavrac, and Klaus P. Janke, editors. *Discovery Science, 9th International Conference, DS 2006, Barcelona, Spain, October 7-10, 2006, Proceedings*, volume 4265 of *Lecture Notes in Computer Science*. Springer, 2006. 7

[249] Dan Jurafsky and Éric Gaussier, editors. *EMNLP 2007, Proceedings of the 2006 Conference on Empirical Methods in Natural Language Processing, 22-23 July 2006, Sydney, Australia*. ACL, 2006. 7

[250] William W. Cohen and Andrew Moore, editors. *Machine Learning, Proceedings of the Twenty-Third International Conference (ICML 2006), Pittsburgh, Pennsylvania, USA, June 25-29, 2006*, volume 148 of *ACM International Conference Proceeding Series*. ACM, 2006. 7

[251] *Proceedings of the 2006 IEEE International Conference on Robotics and Automation, ICRA 2006, May 15-19, 2006, Orlando, Florida, USA*. IEEE, 2006. 7

[252] *INTERSPEECH 2006 - ICSLP, Ninth International Conference on Spoken Language Processing, Pittsburgh, PA, USA, September 17-21, 2006*. ISCA, 2006. 7

[253] Oussama Khatib, Vijay Kumar, and Daniela Rus, editors. *Experimental Robotics, The 10th International Symposium on Experimental Robotics [ISER '06, July 6-10, 2006, Rio de Janeiro, Brazil]*, volume 39 of *Springer Tracts in Advanced Robotics*. Springer, 2008. 7

[254] Bernhard Schölkopf, John C. Platt, and Thomas Hofmann, editors. *Advances in Neural Information Processing Systems 19, Proceedings of the Twentieth Annual Conference on Neural Information Processing Systems, Vancouver, British Columbia, Canada, December 4-7, 2006*. MIT Press, 2007. 7, 8

[255] Brian N. Bershad and Jeffrey C. Mogul, editors. *7th Symposium on Operating Systems Design and Implementation (OSDI '06), November 6-8, Seattle, WA, USA*. USENIX Association, 2006. 8

[256] Efthimis N. Efthimiadis, Susan T. Dumais, David Hawking, and Kalervo Järvelin, editors. *SIGIR 2006: Proceedings of the 29th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, Seattle, Washington, USA, August 6-11, 2006*. ACM, 2006. 8

[257] Manuela M. Veloso and Subbarao Kambhampati, editors. *Proceedings, The Twentieth National Conference on Artificial Intelligence and the Seventeenth Innovative Applications of Artificial Intelligence Conference, July 9-13, 2005, Pittsburgh, Pennsylvania, USA*. AAAI Press / The MIT Press, 2005. 8

[258] CEAS 2005 - Second Conference on Email and Anti-Spam, July 21-22, 2005, Stanford University, California, USA, 2005. 8

[259] 2005 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR 2005), 20-26 June 2005, San Diego, CA, USA. IEEE Computer Society, 2005. 8

[260] Peter I. Corke and Salah Sukkarieh, editors. *Field and Service Robotics, Results of the 5th International Conference, FSR 2005, July 29-31, 2005, Port Douglas, QLD, Australia*, volume 25 of *Springer Tracts in Advanced Robotics*. Springer, 2006. 8

[261] Luc De Raedt and Stefan Wrobel, editors. *Machine Learning, Proceedings of the Twenty-Second International Conference (ICML 2005), Bonn, Germany, August 7-11, 2005*, volume 119 of *ACM International Conference Proceeding Series*. ACM, 2005. 8

[262] Sebastian Thrun, Rodney A. Brooks, and Hugh F. Durrant-Whyte, editors. *Robotics Research: Results of the 12th International Symposium, ISRR 2005, October 12-15, 2005, San Francisco, CA, USA*, volume 28 of *Springer Tracts in Advanced Robotics*. Springer, 2007. 8

[263] HLT/EMNLP 2005, Human Language Technology Conference and Conference on Empirical Methods in Natural Language Processing, Proceedings of the Conference, 6-8 October 2005, Vancouver, British Columbia, Canada. The Association for Computational Linguistics, 2005. 8

[264] *Advances in Neural Information Processing Systems 18 [Neural Information Processing Systems, NIPS 2005, December 5-8, 2005, Vancouver, British Columbia, Canada]*, 2005. 8

[265] Sebastian Thrun, Gaurav S. Sukhatme, and Stefan Schaal, editors. *Robotics: Science and Systems I, June 8-11, 2005, Massachusetts Institute of Technology, Cambridge, Massachusetts*. The MIT Press, 2005. 9

[266] UAI '05, *Proceedings of the 21st Conference in Uncertainty in Artificial Intelligence, Edinburgh, Scotland, July 26-29, 2005*. AUAI Press, 2005. 9

[267] Carla E. Brodley, editor. *Machine Learning, Proceedings of the Twenty-first International Conference (ICML 2004), Banff, Alberta, Canada, July 4-8, 2004*, volume 69 of *ACM International Conference Proceeding Series*. ACM, 2004. 9

[268] Marcelo H. Ang Jr. and Oussama Khatib, editors. *Experimental Robotics IX, The 9th International Symposium on Experimental Robotics [ISER 2004, Singapore, 18.-21. June 2004]*, volume 21 of *Springer Tracts in Advanced Robotics*. Springer, 2006. 9

[269] *Advances in Neural Information Processing Systems 17 [Neural Information Processing Systems, NIPS 2004, December 13-18, 2004, Vancouver, British Columbia, Canada]*, 2004. 9

[270] Sebastian Thrun, Lawrence K. Saul, and Bernhard Schölkopf, editors. *Advances in Neural Information Processing Systems 16 [Neural Information Processing Systems, NIPS 2003, December 8-13, 2003, Vancouver and Whistler, British Columbia, Canada]*. MIT Press, 2004. 9

[271] Suzanna Becker, Sebastian Thrun, and Klaus Obermayer, editors. *Advances in Neural Information Processing Systems 15 [Neural Information Processing Systems, NIPS 2002, December 9-14, 2002, Vancouver, British Columbia, Canada]*. MIT Press, 2003. 9

[272] *SIGIR 2002: Proceedings of the 25th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, August 11-15, 2002, Tampere, Finland*. ACM, 2002. 9

[273] Jean-Daniel Boissonnat, Joel W. Burdick, Ken Goldberg, and Seth Hutchinson, editors. *Algorithmic Foundations of Robotics V, Selected Contributions of the Fifth International Workshop on the Algorithmic Foundations of Robotics, WAFR 2002, Nice, France, December 15-17, 2002*, volume 7 of *Springer Tracts in Advanced Robotics*. Springer, 2004. 9

[274] Carla E. Brodley and Andrea Pohoreckyj Danyluk, editors. *Proceedings of the Eighteenth International Conference on Machine Learning (ICML 2001), Williams College, Williamstown, MA, USA, June 28 - July 1, 2001*. Morgan Kaufmann, 2001. 9

[275] Bernhard Nebel, editor. *Proceedings of the Seventeenth International Joint Conference on Artificial Intelligence, IJCAI 2001, Seattle, Washington, USA, August 4-10, 2001*. Morgan Kaufmann, 2001. 9

[276] Thomas G. Dietterich, Suzanna Becker, and Zoubin Ghahramani, editors. *Advances in Neural Information Processing Systems 14 [Neural Information Processing Systems: Natural and Synthetic, NIPS 2001,*

December 3-8, 2001, Vancouver, British Columbia, Canada]. MIT Press, 2001. 10

[277] W. Bruce Croft, David J. Harper, Donald H. Kraft, and Justin Zobel, editors. *SIGIR 2001: Proceedings of the 24th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, September 9-13, 2001, New Orleans, Louisiana, USA*. ACM, 2001. 10

[278] Ellen M. Voorhees and Donna K. Harman, editors. *Proceedings of The Tenth Text REtrieval Conference, TREC 2001, Gaithersburg, Maryland, USA, November 13-16, 2001*, volume Special Publication 500-250. National Institute of Standards and Technology (NIST), 2001. 10

[279] Pat Langley, editor. *Proceedings of the Seventeenth International Conference on Machine Learning (ICML 2000), Stanford University, Stanford, CA, USA, June 29 - July 2, 2000*. Morgan Kaufmann, 2000. 10

[280] Craig Boutilier and Moisés Goldszmidt, editors. *UAI '00: Proceedings of the 16th Conference in Uncertainty in Artificial Intelligence, Stanford University, Stanford, California, USA, June 30 - July 3, 2000*. Morgan Kaufmann, 2000. 10

[281] Ivan Bratko and Saso Dzeroski, editors. *Proceedings of the Sixteenth International Conference on Machine Learning (ICML 1999), Bled, Slovenia, June 27 - 30, 1999*. Morgan Kaufmann, 1999. 10

[282] Thomas Dean, editor. *Proceedings of the Sixteenth International Joint Conference on Artificial Intelligence, IJCAI 99, Stockholm, Sweden, July 31 - August 6, 1999. 2 Volumes, 1450 pages*. Morgan Kaufmann, 1999. 10

[283] Sara A. Solla, Todd K. Leen, and Klaus-Robert Müller, editors. *Advances in Neural Information Processing Systems 12, [NIPS Conference, Denver, Colorado, USA, November 29 - December 4, 1999]*. The MIT Press, 2000. 10

[284] Jack Mostow and Chuck Rich, editors. *Proceedings of the Fifteenth National Conference on Artificial Intelligence and Tenth Innovative Applications of Artificial Intelligence Conference, AAAI 98, IAAI 98, July 26-30, 1998, Madison, Wisconsin, USA*. AAAI Press / The MIT Press, 1998. 10

[285] Jude W. Shavlik, editor. *Proceedings of the Fifteenth International Conference on Machine Learning (ICML 1998), Madison, Wisconsin, USA, July 24-27, 1998*. Morgan Kaufmann, 1998. 10

[286] Douglas H. Fisher, editor. *Proceedings of the Fourteenth International Conference on Machine Learning (ICML 1997), Nashville, Tennessee, USA, July 8-12, 1997*. Morgan Kaufmann, 1997. 10

[287] Dan Geiger and Prakash P. Shenoy, editors. *UAI '97: Proceedings of the Thirteenth Conference on Uncertainty in Artificial Intelligence, Brown University, Providence, Rhode Island, USA, August 1-3, 1997*. Morgan Kaufmann, 1997. 10

[288] Wolfgang Maass, editor. *Proceedings of the Eighth Annual Conference on Computational Learning Theory, COLT 1995, Santa Cruz, California, USA, July 5-8, 1995*. ACM, 1995. 10