

Curriculum Vitae

Kilian Quirin Weinberger, Ph.D. (updated Mar 22, 2016)

Associate Professor (with tenure), Cornell University

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PROFILE

Associate Professor (with tenure), Department of Computer Science, Cornell University.
Dual citizen of Germany and the United States of America.

Education

University of Pennsylvania, Ph.D. (GPA 4.0/4.0) Computer Science, 2002 - 2007
(Committee: Lawrence Saul, Fernando Pereira, Daniel Lee, Benjamin Taskar)
University of Pennsylvania, M.Sc. (GPA 4.0/4.0) Computer Science, 2004
University of Oxford, UK, B.A. (1st Class Honors) Mathematics and Computing, 2002

EMPLOYMENT HISTORY

2015-present Associate Professor, Cornell University, NY, USA
2014-2015 Associate Professor, Washington University in St. Louis, MO, USA
2010-2014 Assistant Professor, Washington University in St. Louis, MO, USA
2007-2009 Research Scientist, YAHOO! Research, Santa Clara, CA, USA
2006 Research Intern, IBM T.J. Watson Research Institute

CITATION STATISTICS (All statistics based on scholar.google.com, manually corrected for errors.)

Total citations of all publications: 6038
Total citations of top-three most cited publications: 2780
H-Index: 31
Papers with 10 citations or more: 44
Papers with 100 citations or more: 13

PROFESSIONAL ACTIVITIES

Program co-Chair

International Conference in Machine Learning (ICML) 2016

Associate Editor

Transactions on Pattern Analysis and Machine Intelligence (TPAMI) (2014-present)
Journal of Artificial Intelligence Research, JAIR (2015-2018)

Area Chair / Senior Program Committee:

ICML (2010, 2011, 2012, 2013, 2014, 2015), NIPS (2010, 2012, 2014), AAAI (2011, 2012, 2015)

Editorial Board:

Journal of Machine Learning Research, JMLR (2009, 2010, 2011, 2012, 2013, 2014)
Journal of Artificial Intelligence Research, JAIR (2013, 2014)

Publications Chair:

ICML (2011, 2012), NIPS (2011, 2012, 2013, 2014)

Fundraising Chair:

AISTATS 2015, ICML 2015

Member of Program Committee:

NIPS, AISTATS, IJCAI, CVPR

Reviewer:

Science, Machine Learning Journal, JMLR, Neural Computation, IEEE TPAMI, Foundation and Trends in Machine Learning, NIPS, ICML, AISTATS

Workshop co-organizer:

“Resource-Efficient Machine Learning”, ICML 2015, “Workshop on Classification on a Budget”, ICML 2013; “Beyond Mahalanobis: Supervised Large-Scale Learning of Similarity”, NIPS 2011; “Workshop on Novel Applications of Dimensionality Reduction”, NIPS 2006,

NSF Panel member:

2009, 2012, 2013, 2014, 2015

FUNDING

- 2015-2018 **NSF III: Small: Collaborative Research: Towards Interpretable Machine Learning.**
Total: \$500,000, Weinberger (PI) share: \$250,000
- 2014-2015 **NSF EPSCOR, The Missouri Transect: Climate, Plants, and Community**, J. Walker PI.
Total: \$20,000,000, Weinberger (co-PI) share: \$569,941
- 2014-2017 **NSF BPEC: Collaborative Research: Creating Personalized Learning Pathways by Managing Cognitive Load**, C. Kelleher PI. Total: \$522,712, Weinberger (co-PI) share: \$45,000
- 2014-2019 **NIH/NIGMS: Modeling DNA Methylation's Role in Gene Regulation**, J. Edwards PI.
Total: \$1,575,000.0. Weinberger (co-PI) share: \$171,130
- 2013 **University Research Strategic Alliance: "Machine Learning of Best Practice Patterns in Pediatric Cardiac Surgery: a proof of concept study"**. Dr. Eghtesady and Weinberger co-PIs. Total: \$25,000
- 2012 **Yahoo Faculty Engagement Award**, 2012. Weinberger PI. Total: \$15,000 (Gift)
- 2012-2017 **NSF CAREER 1149882: New directions for metric learning**, Weinberger, PI, NSF. Total: \$437,245
- 2011-2015 **NSF EFRI-M3C 1137211: Development of new algorithmic models and tools to enhance neural adaptation in brain computer interface systems**, Moran, PI; Leuthardt, Weinberger co-PIs, NSF.
Total: \$1,992,456.00, Weinberger share \$483,881
- 2010-2013 **NIH Characterization/bioinformatics-modeling of nanoparticle: complement interactions**. Hourcad, PI.
Total: \$2,012,624, Weinberger (co-PI) share \$315,835
- 07/2010 **Yahoo! Faculty Engagement Award**, 2010. Total: \$10,000 (Gift)

HONORS AND AWARDS

- 2014 KDD Best Student Paper Runner-Up Award
- 2012 NSF CAREER Award
- 2012 Recipient of Yahoo! Faculty Research and Engagement Award
- 2011 Winner of AAAI Outstanding Senior Program Chair Award
- 2010 Recipient of Yahoo! Faculty Research and Engagement Award
- 2008 Winner of Yahoo! You Rock Employee Award (shared with A. Dasgupta and M. Zinkevich)
- 2006 Winner of UCSD Student Data Mining Competition (Document Classification)
- 2005 Best student paper award - AISTATS
- 2004 Best student paper award - CVPR
- 2004 Best student paper award - ICML
- 2002 Data Connection Prize for best undergraduate research project in comp. science - Oxford University
- 2002 Award for outstanding performance in Final Exams - St. Peter's College, Oxford University
- 2001 1000€ Award for exceptional achievements during internship - SIEMENS
- 2000 Awarded scholar status (excellence in 1st year exams) - St. Peter's College, Oxford University

REFEREED CONFERENCE PUBLICATIONS AND ASSOCIATED JOURNALS

In computer science, different to most other areas of science, the most prestigious way to publish is in conference proceedings. Just like journals in other areas, these are peer-reviewed and refereed. All of my conference publications are at highly competitive conferences with less than 30% acceptance rate.

Authorship is typically in order of contribution. Students who were at the time under my supervision are highlighted in italics.

76. Gustavo Malkomes, *Matt J. Kusner, Wenlin Chen*, Kilian Q. Weinberger, Benjamin Moseley
Fast Distributed k-Center Clustering with Outliers on Massive Data
Neural Information Processing Systems (NIPS), 2015

75. *Jacob Gardner*, Gustavo Malkomes, Roman Garnett, Kilian Q. Weinberger, Dennis Barbour, John P. Cunningham
Bayesian Active Model Selection with an Application to Automated Audiometry

Neural Information Processing Systems (NIPS), 2015

74. Jacob Gardner, Gustavo Malkomes, Roman Garnett, Kilian Weinberger, Dennis Barbour, John Cunningham **Bayesian Active Model Selection with an Application to Automated Audiometry**. Neural Information Processing Systems (NIPS), Montreal, CA, Curran Associates, pages 2386--2394.
73. Gustavo Malkomes, *Matt Kusner, Wenlin Chen*, Kilian Weinberger, Benjamin Moseley. **Fast Distributed k-Center Clustering with Outliers on Massive Data**. Neural Information Processing Systems (NIPS), Montreal, CA, Curran Associates, pages 1063--1071.
72. *Jacob R. Gardner*, Xinyu Song, Kilian Q. Weinberger, Dennis Barbour, John Cunningham, **Psychophysical Detection Testing with Bayesian Active Learning**. Conference on Uncertainty in Artificial Intelligence (UAI), Amsterdam, Netherlands, (in press...)
71. *Matt J. Kusner, Yu Sun, Nicholas I. Kolkin*, Kilian Q. Weinberger, **From Word Embeddings to Document Distances**. International Conference on Machine Learning (ICML), 2015, Lille, France. (in press...)
70. *Matt J. Kusner, Jacob R. Gardner*, Roman Garnett, Kilian Q. Weinberger, **Differentially Private Bayesian Optimization**. International Conference on Machine Learning (ICML), 2015, Lille, France. (in press...)
69. *Wenlin Chen, James T. Wilson, Stephen Tyree*, Kilian Q. Weinberger, Yixin Chen, **Compressing Neural Networks with the Hashing Trick**. International Conference on Machine Learning (ICML), 2015, Lille, France. (in press...)
68. *Wenlin Chen*, Yixin Chen, and Kilian Q. Weinberger. Filtered Search for Submodular Maximization with Controllable Approximation Bounds. Proceedings of the Eighteenth International Conference on Artificial Intelligence and Statistics (AISTATS), 2015 (In press ...)
67. *Zheng Chen, Minmin Chen*, Kilian Q. Weinberger, Weixiong Zhang. Marginalized Denoising for Link Prediction and Multi-label Learning. Association for the Advancement of Artificial Intelligence (AAAI), 2015. (In press...)
66. *Quan Zhou, Wenlin Chen*, Shiji Song, *Jacob R. Gardner*, Kilian Q. Weinberger, Yixin Chen. A Reduction of the Elastic Net to Support Vector Machines with an Application to GPU Computing. Association for the Advancement of Artificial Intelligence (AAAI), 2015. (In press...)
65. *Matt Kusner, Stephen Tyree*, Kilian Q. Weinberger, Kunal Agrawal, **Stochastic Neighbor Compression**. International Conference on Machine Learning (ICML), Beijing China. JMLR W&CP 32 (1) :622-630, 2014.
64. *Jacob Gardner, Matt Kusner, Zhixiang (Eddie) Xu*, Kilian Q. Weinberger, John Cunningham, **Bayesian Optimization with Inequality Constraints**. International Conference on Machine Learning (ICML), Beijing China. JMLR W&CP 32 (1) :937-945, 2014.
63. Minmin Chen, Kilian Q. Weinberger, Fei Sha, Yoshua Bengio, **Marginalized Denoising Auto-encoders for Nonlinear Representations**. International Conference on Machine Learning (ICML), Beijing China. JMLR W&CP 32 (1) : 1476-1484, 2014.
62. *Matt Kusner, Wenlin Chen, Quan Zhou, Eddie Xu* and Kilian Weinberger, **Feature-Cost Sensitive Learning with Submodular Trees of Classifiers**. Proc. AAAI Conference on Artificial Intelligence (AAAI-14), 2014. (in press ...)
61. *Zhixiang (Eddie) Xu, Gao Huang*, Kilian Q. Weinberger, Alice Zheng. Gradient Boosted Feature Selection. To appear in 20th ACM SIGKDD Conf. on Knowledge Discovery and Data Mining (KDD), 2014, (in press ...).
60. *W. Chen, Y. Chen, K. Weinberger*, **Fast Flux Discriminant for Large-Scale Sparse Nonlinear Classification**, Proc. ACM SIGKDD Conference (KDD), 2014. (in press ...) [**Winner of runner-up best paper award.**]
59. *Gao Huang, Shiji Song, Zhixiang (Eddie) Xu*, Kilian Q. Weinberger, Transductive Minimax Probability Machine, European Conference on Machine Learning (ECML) 2014 (In press ...)

58. Z. Xu, M. J. Kusner, K.Q. Weinberger, Minmin Chen. [Cost-Sensitive Tree of Classifiers](#). Proceedings of 30th International Conference on Machine Learning (ICML), Atlanta, GA, Published in Journal of Machine Learning Research (JMLR) Proceedings track Vol. 28, pages 133-141, 2013.
57. M. Chen, Alice Zheng, K.Q. Weinberger. [Fast Image Tagging](#). Proceedings of 30th International Conference on Machine Learning (ICML), Atlanta, GA, Published in Journal of Machine Learning Research (JMLR) Proceedings track Vol. 28, pages 1274-1282, 2013.
56. Z. Xu, M. J. Kusner, G. Huang, K.Q. Weinberger. [Anytime Representation Learning](#). Proceedings of 30th International Conference on Machine Learning (ICML), Atlanta, GA, Published in Journal of Machine Learning Research (JMLR) Proceedings track Vol. 28, pages 1076-1084, 2013.
55. L. van der Maaten, M. Chen, S. Tyree, and K. Q. Weinberger. [Learning with Marginalized Corrupted Features](#). Proceedings of 30th International Conference on Machine Learning (ICML), Atlanta, GA, Published in Journal of Machine Learning Research (JMLR) Proceedings track Vol. 28, pages 410-418, 2013.
54. W. Chen, K.Q. Weinberger, and Y.Chen. [Maximum Variance Correction](#). Proceedings of 30th International Conference on Machine Learning (ICML), Atlanta, GA, Published in Journal of Machine Learning Research (JMLR) Proceedings track Vol. 28, pages 302-310, 2013.
53. Wenlin Chen, Yixin Chen, K.Q. Weinberger, Qiang Lu, and Xiaoping Chen, [Goal-Oriented Euclidean Heuristics with Manifold Learning](#), Proc. AAAI Conference on Artificial Intelligence (AAAI), 2013.
52. Q. Lu, W. Chen, Y. Chen, K.Q. Weinberger, and X. Chen, [Utilizing Landmarks in Euclidean Heuristics for Optimal Planning](#), [Late-Breaking Track](#), Proc. AAAI Conference on Artificial Intelligence (AAAI), 2013.
51. D. Kedem, S. Tyree, K.Q. Weinberger, F. Sha, G. Lanckriet. [Nonlinear metric learning](#). In Proceedings of Advances in Neural Information Processing Systems 25 (NIPS), pages 2582-2590, 2012.
50. Z. (Eddie) Xu, M. Chen, K.Q. Weinberger, F. Sha. [From sBoW to dCoT: Marginalized Encoders for Text Representation](#). Proceedings of 21st ACM Conference of Information and Knowledge Management (CIKM), Hawaii, pages 1879-1884, 2012
49. Minmin Chen, Zhixiang (Eddie) Xu, K. Q. Weinberger, F. Sha. [Marginalized Stacked Denoising Autoencoders for Domain Adaptation](#). Proceedings of 29th International Conference on Machine Learning (ICML), Edinburgh Scotland, Omnipress, pages 767-774, 2012.
48. Zhixiang (Eddie) Xu, Kilian Q. Weinberger, Olivier Chapelle. [The Greedy Miser: Learning under Test-time Budgets](#). Proceedings of 29th International Conference on Machine Learning (ICML), Edinburgh Scotland, Omnipress, pages 1175--1182, 2012.
47. Minmin Chen, Zhixiang (Eddie) Xu, Kilian Q. Weinberger, Olivier Chapelle, Dor Kedem, [Classifier Cascade: Tradeoff between Accuracy and Feature Evaluation Cost](#), 15th International Conference on Artificial Intelligence and Statistics (AISTATS), Published in Journal of Machine Learning Research (JMLR) Proceedings track Vol. 5, pages 218-226, MIT Press, 2012.
46. Minmin Chen, Kilian Q. Weinberger, John Blitzer. [Co-Training for Domain Adaptation](#). To appear in Advances in Neural Information Processing Systems 25 (NIPS), 2011
45. Minmin Chen, K.Q. Weinberger, Y. Chen. [Automatic Feature Decomposition for Single View Co-training](#). Proceedings of the 28th International Conference on Machine Learning (ICML), pages 953--960, ACM, Bellevue, USA, 2011.
44. Anirudh Ramachandran, Anirban Dasgupta, Nick Feamster and Kilian Weinberger. [Spam or Ham? Characterizing and Detecting Fraudulent "Not Spam" Reports in Web Mail Systems](#). Eighth Conference on Email and Anti-Spam (CEAS), 2011.
43. Stephen Tyree, Kilian Q. Weinberger, Kunal Agrawal, Jennifer Paykin. [Parallel Boosted Regression Trees for Web Search Ranking](#). Proceedings of the 20th international conference on World Wide Web (WWW), pages 387-396, ACM, New York, USA, 2011.

42. S. Parameswaran and K.Q. Weinberger. [Large Margin Multi-Task Metric Learning](#). In J. Lafferty, C. K. I. Williams, J. Shawe-Taylor, R.S. Zemel, and A. Culotta (eds.), *Advances in Neural Information Processing Systems 23 (NIPS)*, pages 1867-1875, 2010.
41. O. Chapelle, S. Vadrevu, K. Q. Weinberger, P. Shivaswamy, Y. Zhang, B. Tseng. [Multi-Task Learning for Boosting with Application to Web Search Ranking](#), KDD 2010. Proceedings of the 16th international conference on Knowledge discovery and data mining (**SIGKDD**): 1189-1198 ACM.
40. *Yuzong Liu*, Mohit Sharma, Charles M. Gaona, Jonathan D. Breshears, Jarod Roland, Zachary V. Freudenberg, Kilian Q. Weinberger, and Eric C. Leuthardt. [Decoding Ipsilateral Finger Movements from ECoG Signals in Humans](#). In J. Lafferty, C. K. I. Williams, J. Shawe-Taylor, R.S. Zemel, and A. Culotta (eds.), *Advances in Neural Information Processing Systems 23 (NIPS)*, pages 1468-1476, 2010.
39. B. Bai, J. Weston, D. Grangier, R. Collobert, O. Chapelle, K. Q. Weinberger. [Supervised Semantic Indexing](#). The 18th ACM Conference on Information and Knowledge Management (**CIKM**), pages 187-196, 2009.
38. *J. Attenberg*, K. Q. Weinberger, A. Smola, A. Dasgupta, M. Zinkevich, [Collaborative Email-Spam Filtering with the Hashing-Trick](#), Sixth Conference on Email and Anti-Spam, (**CEAS**). Mountain View, CA, 2009.
37. K. Q. Weinberger, Anirban Dasgupta, John Langford, Alex Smola, Josh Attenberg. [Feature Hashing for Large Scale Multitask Learning](#). In Proceedings of the Twenty Sixth International Conference on Machine Learning (**ICML**), Canada.
36. K. Q. Weinberger and O. Chapell (2008). [Large Margin Taxonomy Embedding with an Application to Document Categorization](#). To appear in proceedings of the 22nd annual conference on Neural Information Processing Systems (**NIPS**), Vancouver, BC, Canada.
35. K. Q. Weinberger, M. Slaney, R. van Zwol (2008). [Resolving Tag Ambiguity](#). In Proceedings of the Fifteenth ACM International Conference on Multimedia (**ACM Multimedia**), Vancouver, BC, Canada.
34. J. M. Lewis, P. M. Hull, K. Q. Weinberger, and L. K. Saul (2008). [Mapping uncharted waters: exploratory analysis, visualization, and clustering of oceanographic data](#). In Proceedings of the Seventh International Conference on Machine Learning and Applications (**ICMLA**), San Diego, CA.
33. M. Slaney, K. Q. Weinberger, W. White (2008). [Learning a Metric for music similarity](#). In Proceedings of the Ninth International Conference on Music Information Retrieval, (**ISMIR**), Philadelphia, PA.
32. K. Q. Weinberger and L. K. Saul (2008). [Fast Solvers and Efficient Implementations for Distance Metric Learning](#). In Proceedings of the Twenty Fifth International Conference on Machine Learning (**ICML**), Helsinki, Finland.
31. K. Q. Weinberger, G. Tesauro (2007). [Metric Learning for Kernel Regression](#). In Proceedings of the Eleventh International Workshop on Artificial Intelligence and Statistics (**AISTATS**), Puerto Rico, Published in Journal of Machine Learning Research (**JMLR**) Proceedings track Vol. 2, pages 612-619.
30. K. Q. Weinberger, F. Sha, Ken Zhu, and L. K. Saul (2006). [Graph Regularization for Maximum Variance Unfolding, with an Application to Sensor Localization](#). In proceedings of the 20th annual conference on Neural Information Processing Systems (**NIPS**), Vancouver.
29. K. Q. Weinberger and L. K. Saul (2006). [An Introduction to Nonlinear Dimensionality Reduction by Maximum Variance Unfolding](#). In Proceedings of the National Conference on Artificial Intelligence (**AAAI**), Nectar paper, Boston MA.
28. K. Q. Weinberger, J. C. Blitzer and L. K. Saul (2005). [Distance Metric Learning for Large Margin nearest Neighbor Classification](#). In Proceedings of the 19th annual conference on Neural Information Processing Systems (**NIPS**), Vancouver, BC, Canada.

27. K. Q. Weinberger, B. D. Packer and L. K. Saul (2005). [Nonlinear Dimensionality Reduction by Semidefinite Programming and Kernel Matrix Factorization](#). In Proceedings of the Tenth International Workshop on Artificial Intelligence and Statistics (**AISTATS**), Barbados. (* **outstanding student paper award** *).
26. J. Blitzer, K. Q. Weinberger, L. K. Saul, F. C. N. Pereira (2004). [Hierarchical Distributed Representations for Statistical Language Modeling](#). In Proceedings of the 18th annual conference on Neural Information Processing Systems (**NIPS**), Vancouver.
25. K. Q. Weinberger and L. K. Saul (2004). [Unsupervised learning of image manifolds by semidefinite programming](#). In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), Washington D.C. (* **outstanding student paper award** *).
24. K. Q. Weinberger, F. Sha, and L. K. Saul (2004). [Learning a kernel matrix for nonlinear dimensionality reduction](#). In Proceedings of the Twenty First International Conference on Machine Learning (**ICML**), Banff, Canada. (* **outstanding student paper award** *).

REFEREED JOURNAL PUBLICATIONS

23. Mrinal Pahwa, Matthew Kusner, Carl D. Hacker, David T. Bundy, Kilian Q. Weinberger, Eric C. Leuthardt. **Optimizing the Detection of Wakeful and Sleep-Like States for Future Electrographic Brain Computer Interface Applications**
10.1371/journal.pone.0142947
22. Song XD, Wallace BM, Gardner JR, Ledbetter NM, Weinberger KQ, Barbour DL. **Fast, Continuous Audiogram Estimation Using Machine Learning**.
Ear and hearing, 2015 Nov-Dec; 36(6):e326-35.
21. Z. Xu, M. Chen, K.Q. Weinberger, F. Sha. Marginalizing Stacked Linear Denoising Autoencoders, Journal of Machine Learning Research (**JMLR**), in press ... , 2015.
20. Dennis G Thomas, Satish Chikkagoudar, Alejandro Heredia-Langner, Mark F Tardiff, Zhixiang Xu, Dennis E Hourcade, Christine T N Pham, Gregory M Lanza, Kilian Q Weinberger and Nathan A Baker **Physicochemical signatures of nanoparticle-dependent complement activation**.
Computational Science & Discovery 7 (1), 015003, 2014.
19. Z. Xu, M. J. Kusner, K.Q. Weinberger, M. Chen, O. Chapelle, Classifier Cascades and Trees for Minimizing Feature Evaluation Cost. Journal of Machine Learning Research (**JMLR**), 15(Jun):2113–2144, 2014.
18. O. Chapelle, P. Shivaswamy, S. Vadrevu, K. Q. Weinberger, Y. Zhang, B. Tseng. [Boosted multi-task learning](#) Machine Learning Journal (**MLJ**), ISSN 0885-6125, pages 1-25, Springer Verlag, 2011.
17. B. Bai, J. Weston, D. Grangier, R. Collobert, K. Sadamasa, Y. Qi, O. Chapelle, K. Q. Weinberger. [Learning to Rank with \(a Lot of\) Word Features](#). Special Issue on Learning to Rank for Information Retrieval, Journal of Information Retrieval (**JIR**). 13:291-314, Springer Verlag, 2010.
16. K. Q. Weinberger and L. K. Saul (2009). [Distance metric learning for large margin nearest neighbor classification](#). Journal of Machine Learning Research (**JMLR**) 10:207-244.
15. K. Q. Weinberger and L. K. Saul (2006) International Journal of Computer Vision (**IJCV**). [Unsupervised Learning of Image Manifolds by Semidefinite Programming](#). Guest Editor(s): Aaron Bobick, Rama Chellappa, Larry Davis, Pages 77-90, Volume 70, Number 1, Springer Netherlands
- ## TECHNICAL REPORTS AND WORKSHOP PUBLICATIONS
14. Z. Xu, K.Q. Weinberger, O. Chapelle, [Distance Metric Learning for Kernel Machines](#), arXiv preprint arXiv:1208.3422
13. M. Chen, K. Q. Weinberger, A. Zheng. [Learning from Incomplete Image Tags](#). NIPS Workshop on Large Scale Visual Recognition and Retrieval, 2012.

12. Z. Xu, K.Q. Weinberger, O. Chapelle. [The Greedy Miser: Learning under Test-time Budgets](#). The Learning Workshop, Cliff Lodge, Snowbird, Utah (Snowbird) 2012.

11. L.J.P. van der Maaten and K.Q. Weinberger. [Stochastic Triplet Embedding](#). To appear in Proceedings of the IEEE International Workshop on Machine Learning for Signal Processing,

10. M. Chen, Z. (Eddie) Xu, K. Q. Weinberger, F. Sha. [Marginalized Stacked Denoising Autoencoders](#). The Learning Workshop, Cliff Lodge, Snowbird, Utah (Snowbird) 2012.

9. A. Mohan, Z. Chen, K.Q. Weinberger. [Web-Search Ranking with Initialized Gradient Boosted Regression Trees](#). published in Journal of Machine Learning Research (**JMLR**), Proceedings Track Vol. 14, Yahoo! Learning to Rank Challenge, pages 77-89, MIT Press, 2011.

8. D. Kedem, Z. (Eddie) Xu, K. Q. Weinberger. [Gradient Boosting for Large Margin Nearest Neighbors](#). Presented at NIPS 2011 Workshop on Beyond Mahalanobis: Supervised Large-Scale Learning of Similarity, Granada Spain.

7. Z. (Eddie) Xu, K.Q. Weinberger, F. Sha. [Rapid Feature Learning with Stacked Linear Denoisers](#). arXiv:1105.0972, 2011 (Technical report, not peer-reviewed.) Presented at ICML 2011 Workshop on Unsupervised and Transfer Learning.

6. E. Hörster , M. Slaney, M. Ranzato ,K. Q. Weinberger (2009). [Unsupervised Image Ranking](#). ACM Workshop on Web-Scale Multimedia Corpus (**WSMC 2009**), Beijing, China, October 2009

5. L. Kennedy, M. Slaney, K. Q. Weinberger (2009). [Reliable Tags Using Image Similarity: Mining Specificity and Expertise from Large-Scale Multimedia Databases](#). ACM Workshop on Web-Scale Multimedia Corpus (**WSMC 2009**), Beijing, China, October 2009

4. K.Q. Weinberger, K. Crammer, and L.K. Saul. Locally Adaptive Large Margin Nearest Neighbor Classification. The Learning Workshop, Cliff Lodge, Snowbird, Utah (Snowbird) 2006.

INVITED PUBLICATIONS

3. K.Q. Weinberger, F. Sha, and L.K. Saul. [Convex optimizations for distance metric learning and pattern classification](#). IEEE Signal Processing Magazine, 2010.

2. J. Attenberg, K. Q. Weinberger, A. Smola, A. Dasgupta, M. Zinkevich [Collaborative Spam Filtering with the Hashing Trick](#), Virus Bulletin (VB) 2009

1. K. Q. Weinberger. Book review of: [Nonlinear Dimensionality Reduction](#). John A. Lee and Michel Verleysen. Journal of the American Statistical Association (JASA), ASA, 2009.

BOOK CHAPTER

1. L. K. Saul, K. Q. Weinberger, F. Sha, J. H. Ham, and D. D. Lee (2005). [Spectral methods for dimensionality reduction](#), in B. Schölkopf, O Chapelle, and A. Zien (eds.), Semisupervised Learning. MIT Press Cambridge, MA

INVITED TALKS

April 2016 Harvard University, Colloquium
 March 2016 Google ML Symposium
 December 2015 NIPS Workshop on Feature and Representation Learning
 June 2015 BeneLearn, NLD, Keynote
 October 2014 Universität Basel, CH, Colloquium
 October 2014 ETH, CH, AI Seminar
 October 2014 Purdue, AI Seminar
 September 2014 Rutgers, AI Colloquium
 September 2014 Cornell University, Colloquium
 June 2014 Tsinghua University, AI Seminar
 May 2014 Stampede 2014 Conference, Invited talk
 April 2014 Boston University, Colloquium
 February 2014 Université Paris-Sud, Invited workshop talk
 December 2013 NIPS Workshop on personalization, Invited talk
 December 2013 NIPS Workshop on output representation learning, Invited talk
 December 2013 NIPS Workshop on Resource-Efficient Machine Learning, Invited talk
 September 2013 Rice University Colloquium
 August 2013 TU Delft, Netherlands Colloquium, Colloquium, Colloquium
 June 2013 ICML Workshop on Divergence Learning, Invited talk
 April 2013 University of Utah, Salt Lake City, USA, Colloquium
 April 2013 Johns Hopkins University, Baltimore, MD, USA, AI Seminar
 April 2013 University of Maryland, College Park, MD, USA, AI Seminar
 April 2013 Microsoft Research, NYC, NY, USA, Colloquium
 July 2012 University of Glasgow (UK), AI Seminar
 May 2012 Microsoft Research, Colloquium
 April 2012 University of Illinois Urbana Champaign, IL, AI Seminar
 January 2012 Midwest Vision Workshop, Invited talk
 September 2011 Qualcomm Symposium on Context Aware Mobile Computing, Invited talk
 August 2011 Dagstuhl Workshop on Learning in the context of very high dimensional data, Invited talk
 December 2010 NIPS Multiple Kernel Learning Workshop (Whistler, CA), Invited talk
 July 2010 ICML Learning to Rank Workshop (Haifa Israel), Invited talk
 October 2009 University of California San Diego, CA, Colloquium
 April 2009 École Polytechnique Fédérale de Lausanne, Switzerland, Colloquium
 April 2009 Washington University St. Louis, MO, Colloquium
 March 2009 Gatsby Unit, University College London (UK), Colloquium
 March 2009 Computer Science Department, Indiana Univ., IN, Colloquium
 October 2008 Georgia Institute of Technology, GA, Colloquium
 October 2008 University of Southern California, CA, AI Seminar
 October 2008 New York University, NY, AI Seminar
 October 2008 UC Merced, CA, Colloquium
 January 2007 Banff workshop on Mathematical Programming in Machine Learning, Banff, Canada

PHD THESIS COMMITTEES

Internal PhD committees

Ikenna C. Odinaka, Identifying Humans by the Shape of Their Heartbeats and Materials by Their X-ray Scattering Profiles, 2014

Michael W. Stevens, On the Analysis of DNA Methylation, 2014

Ly Phan, *Shape Correspondence for Biological Applications*, 2013.

Mohit Sharma, *Characterization the Electrophysiology associated with ipsilateral arm and finger movements using ECoG in humans*, 2013.

Jordan Williams, *ECoG correlates of visuomotor transformation, neural plasticity, and application to a force-based Brain Computer Interface*, 2012.

Ruoyun Huang, *Efficient Automated Planning with New Formulations*, 2011.

Adam Rouse, *Neural Adaptation and the Effect of Interelectrode Spacing on Epidural Electroencephalography for Brain Computer Interfaces*, 2011.

Charles Michael Gaona, *Nonuniform Power Changes and Spatial, Temporal and Spectral Diversity in High Gamma Band (>60 Hz) Signals in Human Electroencephalography*, 2011.

Tom Erez, *Optimal Control for Autonomous Motor Behavior*, 2011.

Lu Liu, *Multi-Dimensional Medial Geometry: Formulation, Computation, and Applications*, 2011.

External PhD committees

Wenlin Chen, Learning with Scalability and Compactness, Washington University in St. Louis, 2016

Pratik Kumar Jawanpuria, "Learning Kernels for Multiple PredictiveTasks.", IIT Bombay (India), 2014

Djalel Benbouzid, Sequential prediction for budgeted learning Applications to trigger design, Universite Paris-Sud XI 2014

Blake Shaw, *Graph Embedding and Nonlinear Dimensionality Reduction*, 2011, Columbia University.

Anirudh Ramachandran, *Mitigating spam using network-level features*, 2011, Georgia Institute of Technology.

PATENTS GRANTED

Automatic super-resolution transformation for images
KQ Weinberger, MG Slaney
US Patent 8,406,571

Distributed spam filtering utilizing a plurality of global classifiers and a local classifier
KQ Weinberger, J Langford
US Patent 8,108,323

Method and apparatus for improved reward-based learning using nonlinear dimensionality reduction
R Das, GJ Tesauro, KQ Weinberger
US Patent 8,060,454

Context aware image representation
KQ Weinberger, M. Slaney
US Patent 8,433,993

PATENTS PENDING

Gaussian Process Audiogram
DL Barbour, X Song, NM Ledbetter, J Gardner, Kilian Weinberger
PCT/US2016/018595,

Generating congruous metadata for multimedia
M. Slaney, K. Q. Weinberger
US Patent App. 12/042,306

Apparatus and methods for classifying senders of unsolicited bulk emails
A. Dasgupta, K.Q. Weinberger, Y. Koren
US Patent App. 12/686,240

Image similarity from disparate sources
M. Slaney, K.Q. Weinberger, K. Kurapati, S.J. Sathish, P. Ng
US Patent App. 12/533,475

Context Aware Image Representation
K.Q. Weinberger, M. Slaney
US Patent App. 12/491,217

Automatically Ranking Multimedia Objects Identified in Response to Search Queries
E. Hoerster, M.G. Slaney, K.Q. Weinberger
US Patent App. 12/470,437

System and method for improved classification
M.A. Ranzato, K.Q. Weinberger, E. Hoerster, M. Slaney
US Patent App. 12/341,587

System and method for disambiguating text labeling content objects
M. Slaney, K.Q. Weinberger, R. Van Zwol
US Patent App. 12/164,039

Playful incentive for labeling content
K.Q. Weinberger, A. Dasgupta, R. Ramakrishnan, D. Reiley, M.A.M. Zinkevich, B. Pang, D. Kifer
US Patent App. 12/147,342

Hierarchical Recognition Through Semantic Embedding
O. Chapelle, K.Q. Weinberger
US Patent App. 12/111,500

TEACHING

Cornell:

| | | | | |
|-------------|--------|-----------------------|--------------------|--------------|
| Spring 2016 | CS6784 | Advanced Topics in ML | 8 undergraduates | 32 graduates |
| Fall 2015 | CS4780 | Machine Learning | 220 undergraduates | 79 graduates |

Washington University in St. Louis:

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|-------------|---------|----------------------------|-------------------|--------------|
| Spring 2015 | CSE517A | Machine Learning | | |
| Fall 2014 | CSE519T | Advanced Machine Learning | 7 undergraduates | 15 graduates |
| Spring 2014 | CSE517A | Machine Learning | 22 undergraduates | 44 graduates |
| Fall 2013 | CSE511A | Artificial Intelligence | 40 undergraduates | 15 graduates |
| Fall 2012 | CSE519T | Advanced Machine Learning, | 7 undergraduates | 31 graduates |
| Spring 2012 | CSE511A | Artificial Intelligence | 32 undergraduates | 51 graduates |
| Fall 2010 | CSE511A | Artificial Intelligence | 25 undergraduates | 33 graduates |
| Spring 2010 | CSE517A | Machine Learning | 10 undergraduates | 23 graduates |

GRADUATE STUDENT SUPERVISIONPhD alumni:

| | |
|---------------|--|
| Minmin Chen | defended, March 2013 thesis title: "Learning with Weak or Partial Supervision" |
| Zhixiang Xu | defended, August 2014, thesis title: "Supervised Machine Learning Under Test-Time Resource Constraints: A Trade-off Between Accuracy and Cost" |
| Stephen Tyree | defended, December 2014, co-advised with Dr. Kunal Agrawal (primary) thesis title: "Approximation and Relaxation Approaches for Parallel and Distributed Machine Learning." |

PhD under supervision:

| | | |
|----------------|----------------------------|--|
| Chuan Guo | estimated completion: 2020 | |
| Felix Wu | estimated completion: 2020 | |
| Wenlin Chen | estimated completion: 2015 | co-advised with Dr. Yixin Chen (primary) |
| Matthew Kusner | estimated completion: 2016 | |
| Jacob Gardner | estimated completion: 2017 | |
| Wenlin Wang | estimated completion: 2018 | |

MS alumni:

| | |
|--------------|---|
| Ananth Mohan | defended in Fall 2011 thesis title: "Web-search ranking with gradient boosting and random forests" |
| Yuzong Liu | defended in Fall 2011 thesis title: "Ipsilateral brain decoding" |
| Dor Kedem | defended in Fall 2013 graduated based on course work |
| Gabriel Hope | defended Fall 2015 |