

CURRICULUM VITAE OF YIMING YING

PERSONAL INFORMATION

Current Address: Department of Mathematics and Statistics, SUNY at Albany,
Albany, NY, 12222, USA

Email: yying@albany.edu **Tel:** +1 518 442 4613

Homepage: <http://www.albany.edu/~yy298919/>

EDUCATION

- **Zhejiang University, Hangzhou, China**

PhD in Mathematics from Department of Mathematics, 07/2002.

Advisors: Jiecheng Chen and Silei Wang

PhD Dissertation: Studies on Some Operators with Rough Kernels in Harmonic Analysis

Thesis Committee Chair: Shuxing Chen

- **Zhejiang University (formerly Hangzhou University), China**

Bachelor of Science from Department of Mathematics, 07/1997.

APPOINTMENTS

- 01/2017-present, Associate Professor (tenured), Department of Mathematics and Statistics, State University of New York at Albany, NY, USA
- 01/2015-12/2016, Associate Professor (tenure-track), Department of Mathematics and Statistics, State University of New York at Albany, NY, USA
- 03/2010-12/2014, Lecturer (Assistant Professor), Department of Computer Science, University of Exeter, UK
- 04/2007-02/2010, Research Associate, Department of Engineering Mathematics, University of Bristol, Mentor and Supervisor: Professor Colin Campbell
- 08/2005-03/2007, Research Fellow, Department of Computer Science, University College London, Mentor and Supervisor: Professor Massimiliano Pontil
- 01/2003-07/2005, Postdoctoral Research Fellow, Department of Mathematics, City University of Hong Kong, Mentor and Supervisor: Professor Ding-Xuan Zhou
- 07/2002-12/2002, Postdoctoral Research Fellow, Institute of Mathematics, Chinese Academy of Sciences, Mentor and Supervisor: Professor Jiayu Li.

RESEARCH GRANTS AND AWARDS

- PI with Prof Siwei Lyu (Co-PI), National Science Foundation (NSF) Grant, IIS1816227 (USA): Online AUC Maximization Algorithms for Streaming Data, \$498,333, 2018-2021
- PI with Prof M. Stessin (Co-PI) and Prof Siwei Lyu (CI), Presidential Innovation Fund for Research and Scholarship (PIFRS) from SUNY Albany: Advanced Metric Learning for Big Data, \$45,840, 2/2017-1/2018
- PI: Simons Foundation: Collaboration grant for Mathematicians, \$35,000, 2016-2021.
- PI, Royal Devon and Exeter NHS Foundation Trust (UK): "Towards Automatic Prediction of Tumour Growth from CT Images Using Machine Learning Algorithms - A Feasibility Study", total cost: £21,000, 2012-2013.
- University of Exeter Merit Award, 2012.
- PI: EPSRC grant EP/J001384/1 (UK): Towards a new generation of matrix learning methods in machine learning. total cost: £124,000, February 2012- June 2013.
- EPSRC Doctoral Training Grant (DTG) from the University of Exeter: one 3-year phd student scholarship, December 2011 – December 2014.

ACADEMIC SUPERVISION

- 09/2016 - present: Zhenhuan (Neyo) Yang (PhD) at the Department of Mathematics and Statistics, SUNY at Albany.
- 09/2016 - present: Michael Natole (PhD) at the Department of Mathematics and Statistics, SUNY at Albany.
- 01/2016 - 12/2016: Min Xu (Postdoctor) at SUNY Albany. Dr. Xu is supported by the Chinese Scholarship Council (CSC)
- 01/2016 -12/2016: Qin Fang (Postdoctor) at SUNY Albany. Dr. Fang is supported by the Chinese Scholarship Council (CSC)
- 09/2013 - present: Martin Boissier (PhD) at the Department of Mathematics, City University of Hong Kong (Co-supervising with Prof Ding-Xuan Zhou)
- 12/2011- 02/2015: Qiong Cao (PhD student) at the Department of Computer Science, University of Exeter (first job as Postdoc at the University of Oxford, UK)
- 11/2013-02/2014: Yunwen Lei (Postdoc) at the Department of Computer Science, University of Exeter (first job as a postdoctoral fellow at the City University of Hong Kong)
- 02/2012 - 07/2013: Zheng-Chu Guo (Postdoc) at the Department of Computer Science, University of Exeter (first job as associate professor at Zhejiang University, China)

PUBLICATIONS

Books

1. Colin Campbell and Yiming Ying. *Learning with Support Vector Machines*. Morgan and Claypool, 2011.

Journal Papers

2. Julien Bohn, Yiming Ying, Stephane Gentric, and Massimiliano Pontil. Learning local metrics from pairwise similarity data. *Pattern Recognition*, 75: 315-326, 2018.
3. Qin Fang, Min Xu and Yiming Ying. Faster convergence of a randomized coordinate descent method for linearly constrained optimization problems. *Analysis and Applications*, 16(5): 741-755, 2018.
4. Yiming Ying and Ding-Xuan Zhou, Unregularized online learning algorithms with general loss functions. *Applied and Computational Harmonic Analysis (ACHA)*, 42(2): 224-244, 2017.
5. Zheng-Chu Guo, Yiming Ying and Ding-Xuan Zhou. Online regularized pairwise learning algorithms. *Advances in Computational Mathematics*, 43(1): 127-150, 2017.
6. Yiming Ying and Ding-Xuan Zhou. Online Pairwise Learning Algorithms. *Neural Computation*, 28: 743-777, 2016.
7. Yunwen Lei and Yiming Ying. Generalization analysis for multi-modal metric learning. *Analysis and Applications*, 14: 503-521, 2016.
8. Qiong Cao, Zheng-Chu Guo and Yiming Ying. Generalisation bounds for similarity and metric learning. *Machine Learning Journal*, 102(1): 115-132, 2016.
9. Mark Rogers, Colin Campbell and Yiming Ying. Probabilistic inference of biological networks via data integration. *BioMed Research International*, Article ID 707453, 2015.
10. Zheng-Chu Guo and Yiming Ying. Guaranteed classification via regularized similarity learning. *Neural Computation*, 26: 497-522, 2013.
11. Yiming Ying and Peng Li. Distance metric learning with eigenvalue optimization. *Journal of Machine Learning Research*, 13: 1-26, 2012.
12. Yiming Ying, Qiang Wu, and Colin Campbell. Learning the coordinate gradients. *Advances in Computational Mathematics*, 37: 355-378, 2012. (Published Online, September, 2011.)
13. Kaizhu Huang, Yiming Ying and Colin Campbell. Generalized sparse metric learning with relative comparisons. *Journal of Knowledge and Information Systems (KAIS)*, 28: 25-45, 2011.
14. Yiming Ying and Colin Campbell. Rademacher chaos complexity for learning the kernel problem. *Neural Computation*, 22: 2858-2886, 2010.
15. Yiming Ying, Kaizhu Huang, and Colin Campbell. Enhanced protein fold recognition through a novel data integration approach. *BMC Bioinformatics*, 10:267, 2009.
16. Phaedra Agius, Yiming Ying, and Colin Campbell. Bayesian unsupervised learning with multiple data types. *Statistical Applications in Genetics and Molecular Biology*, Vol. 8 Issue 1, 2009.
17. Andrea Capponetto, Charles A. Micchelli, Massimiliano Pontil, and Yiming Ying. Universal multi-task kernels, *Journal of Machine Learning Research*, 9: 1615-1646, 2008.
18. Yiming Ying and Massimiliano Pontil. Online gradient descent learning algorithms. *Foundations of Computational Mathematics*, 5: 561-596, 2008.
19. Yiming Ying and Ding-Xuan Zhou. Learnability of Gaussians with flexible variances. *Journal of Machine Learning Research*, 8: 249-276, 2007.

20. Yiming Ying. Convergence analysis of online algorithms. *Advances in Computational Mathematics*, 27: 273-291, 2007.
21. Qiang Wu, Yiming Ying, and Ding-Xuan Zhou. Multi-kernel regularized classifiers. *Journal of Complexity*, 23: 108–134, 2007.
22. Yiming Ying and Ding-Xuan Zhou. Online regularized classification algorithms. *IEEE Transactions on Information Theory*, 11: 4775-4788, 2006.
23. Qiang Wu, Yiming Ying, and Ding-Xuan Zhou. Learning rates of least-square regularized regression. *Foundations of Computational Mathematics*, 6: 171-192, 2005.
24. Qiang Wu, Yiming Ying, and Ding-Xuan Zhou. Learning theory: from regression to classification. *Topics in Multivariate Approximation and Interpolation*, K. Jetter et.al., Editors, 101–134, 2004.
25. Di-Rong Chen, Qiang Wu, Yiming Ying, and Ding-Xuan Zhou. Support vector machine soft margin classifiers: error analysis. *Journal of Machine Learning Research*, 5: 1143-1175, 2004.
26. Jiayu Li and Yiming Ying. Relations between local Hardy and Lorentz spaces. *Chinese Annals of Mathematics, Series A* 26: 459-462, 2005.
27. Jiecheng Chen, Dashan Fan, and Yiming Ying. A note on the Marcinkiewicz integral operator with rough kernel on product spaces. *Chinese Annals of Mathematics, Series A*, 24 : 777–786, 2003.
28. Yiming Ying and Jiecheng Chen. L^p boundedness of a class of singular integrals on product domains. *Acta Mathematica Sinica*, 46: 833–842, 2003.
29. Jiecheng Chen, Dashan Fan, and Yiming Ying. Certain operators with rough singular kernels. *Canadian Journal of Mathematics*, 55: 504–532, 2003.
30. Han Xu, Jiecheng Chen, and Yiming Ying. A note on Marcinkiewicz integrals with H^1 kernels. *Acta Mathematica Scientia, Series B*, 23: 133–138, 2003.
31. Jiecheng Chen, Dashan Fan, and Yiming Ying. The method of rotation and Marcinkiewicz integrals on product domains. *Studia Mathematica*, 153: 41–58, 2002.
32. Jiecheng Chen, Dashan Fan, and Yiming Ying. Singular integral operators on function spaces. *Journal of Mathematical Analysis and Applications*, 276: 691–708, 2002.
33. Jiecheng Chen, Dashan Fan, and Yiming Ying. Rough Marcinkiewicz integrals with $L(\log^+ L)^2$ kernels on product spaces. *Advances in Mathematics (China)*, 30: 179–181, 2001.

Refereed Conference Papers

34. Michael Natole Jr, Yiming Ying and Siwei Lyu. Stochastic proximal algorithms for AUC maximization. *International Conference on Machine Learning (ICML)*, 2018.
35. Siwei Lyu and Yiming Ying. A univariate bound of area under ROC. *International Conference on Uncertainty in Artificial Intelligence (UAI)*, Monterey Bay, CA, 2018
36. Yi Wei, Ming-Ching Chang, Yiming Ying, Ser Nam Lim, and Siwei Lyu. Explain black- box image classifications using superpixel-based interpretation. *International Conference on Pattern Recognition (ICPR)*, Beijing, China, 2018.

37. Michael Natole, Yiming Ying and Siwei Lyu. Stochastic Proximal Algorithms for AUC Maximization. *International Conference on Machine Learning (ICML)*, 2018.
38. Yanbo Fan, Siwei Lyu, Yiming Ying and Baogang Hu. Learning with average top-k loss. *Advances in Neural Information Processing Systems (NIPS)*, 2017.
39. Yiming Ying, Longyin Wen and Siwei Lyu. Stochastic online AUC maximization. *Advances in Neural Information Processing Systems (NIPS)*, 2016. (Full oral presentation)
40. Martin Boissier, Siwei Lyu, Yiming Ying, and Ding-Xuan Zhou. Fast convergence of online pairwise learning algorithms. *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2016.
41. Xin Wang, MingChing Chang, Yiming Ying, and Siwei Lyu. Co-Regularized PLSA for multi-modal learning. *The Thirtieth AAAI Conference on Artificial Intelligence (AAAI-16)*, 2016.
42. Julien Bohne, Yiming Ying, Stephane Gentric and Massimiliano Pontil. Large margin local metric learning. *European Conference on Computer Vision (ECCV)*, 2014.
43. Qiong Cao, Yiming Ying and Peng Li. Similarity metric learning for face recognition. *International Conference on Computer Vision (ICCV)*, 2013.
44. Qiong Cao, Yiming Ying and Peng Li. Distance metric learning revisited. *European Conference on Machine Learning (ECML)*, 2012.
45. Yiming Ying, Colin Campbell and Mark Girolami. Analysis of SVM with indefinite kernels. *Advances in Neural Information Processing Systems (NIPS)*, 2009.
46. Yiming Ying, Kaizhu Huang and Colin Campbell. Sparse metric learning via smooth optimisation. *Advances in Neural Information Processing Systems (NIPS)*, 2009.
47. Kaizhu Huang, Yiming Ying and Colin Campbell. GSML: A unified framework for sparse metric learning. *IEEE International Conference on Data Mining (ICDM)*, 2009.
48. Yiming Ying, Colin Campbell, Theodoros Damoulas, and Mark Girolami. Class prediction from disparate biological data sources using an iterative multi-kernel algorithm. *Conference of Pattern Recognition in Bioinformatics (PRIB), 2009; Lecture Notes in Bioinformatics (LNIB) 5780: 427–438*, 2009.
49. Yiming Ying and Colin Campbell. Generalization bounds for learning the kernel. *Proceedings of 22nd Annual Conference on Learning Theory (COLT)*, 2009.
50. Peng Li, Yiming Ying, and Colin Campbell. A variational approach to semi-supervised clustering. *European Symposium on Artificial Neural Networks (ESANN)*, 2009.
51. Yiming Ying and Colin Campbell. Learning coordinate gradients with multi-task kernels. *Proceedings of 21st Annual Conference on Learning Theory (COLT)*, 2008.
52. Yiming Ying, Peng Li, and Colin Campbell. A marginalized variational Bayesian approach to the analysis of array data. *BMC proceedings for Conference of MLSB*, 2008.
53. Theodoros Damoulas, Yiming Ying, Mark Girolami, and Colin Campbell. Inferring sparse kernel combinations and relevance vectors: an application to subcellular localization of proteins. *Proceedings of International Conference of Machine Learning and Applications (ICMLA)*, 2008.
54. Andreas Argyriou, Charles A. Micchelli, Massimiliano Pontil, and Yiming Ying. A spectral regularization framework for multi-task structure learning[†]. *Advances in Neural Information Processing Systems (NIPS)*, 2007.

SERVICES

- Academic Services
 - Associate Editor for Neurocomputing (2016-present)
 - Associate Editor for Mathematics of Computation and Data Science (2016-present)
 - Senior program committee of the 19th International Conference on Artificial Intelligence and Statistics (2016)
 - Grant reviewer for EPSRC in UK (2013, 2015), the Research Foundation - Flanders (FWO) Belgium (2013), and Research Grants Council (RGC) in Hong Kong (2015-2017)
 - Publicity Co-Chair of the 15th IEEE International Conference on Computer and Information Technology (CIT-2015)
 - Guest editor for the special issue on “Learning Theory” for Abstract and Applied Analysis, 2013
 - Invited grant panel member of the Research Council for Natural Sciences and Engineering at the Academy of Finland in the area of Applied Mathematics, 01/2011
 - Reviewer for Journal of Machine Learning Research, IEEE Transactions on Neural Networks, Journal of Statistical Planning and Inference, Pattern Recognition, Advances in Computational Mathematics, Neural Computation, Applied and Computational Harmonic Analysis, NIPS (2009-2015), ICML (2010-2015), AISTATS (2009-2015)
- Departmental and University's Services
 - Member for Tenure and Promotion Committee at the CAS college, SUNY Albany (9/2016-present)
 - Member for the Searching Committee for the Director of Institute of Data Analytics (4/2017)
 - Member for the Chair Searching Committee (3/2018)
 - Representative to the CAS Faculty Council at SUNY Albany for the academic year 2015-2017.
 - Member of the Graduate Committee at the department of mathematics, SUNY Albany (01/2015-present).

INVITED TALKS

- Invited speaker at the NII Shonan meeting-123: Data Dependent Dissimilarities, Tokyo, Japan (10/2018)
- Invited speaker at the DIMACS workshop on optimization in machine learning at Lehigh University, USA (8/2018)
- Invited speaker at the International Conference of Computational and Applied Harmonic Analysis, Nashville, USA (5/2018)
- Invited speaker at the International Conference of Computational and Applied Harmonic Analysis, Shanghai, China (5/2017)
- Invited speaker at the Oberwolfach workshop on Learning Theory and Approximation (07/2016)
- Invited speaker at the symposium of Frontiers of Statistics and Data Sciences, The Hong Kong Polytechnic University, Hong Kong (06/2016)
- Invited speaker at the International Workshop on Mathematical Aspects of Data Science, Fudan University, China (05/2016)

- Invited speaker at the Youth Statistician Forum: prospect and perspective in statistics and its application, Hong Kong polytechnic University (06/2015)
- Invited speaker at SIAM-SEAS Minisymposium on Statistical Learning Theory, University of Alabama at Birmingham, USA (03/2015)
- Invited speaker at the International Conference on Learning and Approximation, Fudan University (12/2014)
- Invited speaker at the International Workshop on Learning Theory, Shaoxing, China (09/2013)
- Invited speaker at the Fourth International Conference on Computational Harmonic Analysis (ICCHA), Hong Kong (05/2011)
- Seminar talks at various universities.

TEACHING ACTIVITIES

- *Practical Machine Learning (AMAT593)*, SUNY Albany (2018)
- *Machine Learning (AMAT592)*, SUNY Albany (2017, 2018)
- *Topics in Modern Mathematics: Online Convex Optimization (AMAT587)*, SUNY Albany (2016)
- *Topics in Modern Mathematics: Machine Learning (AMAT587)*, SUNY Albany (2015 -2016)
- *Calculus of Several Variables (AMAT214)*, Department of Mathematics, SUNY Albany (2015-2016)
- Lecturer for undergraduate course *Frontiers of Computer Science*, Department of Computer Science, University of Exeter (Spring 2012, 2013)
- Leading lecturer for MSc course *Pattern Recognition*, Department of Computer Science, University of Exeter (Spring 2012, 2013)
- Lecturer for undergraduate course *Enterprise Computing*, Department of Computer Science, University of Exeter (Spring, 2013)
- Lecturer for MSc course *Machine Learning and Optimisation*, Department of Computer Science, University of Exeter (Spring 2011, 2013)