

Curriculum Vitae of Yiming Ying

Personal Information

Date of Birth: 1976

Nationality: Chinese

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Research Interests

Kernel Methods, Pattern Analysis, Learning Theory, Convex Optimization, Probabilistic Bayesian Models and their applications to Bioinformatics and cancer informatics

Current Position

03/2010-present, Lecturer (Assistant Professor) in Computer Science, School of Engineering, Computing and Mathematics (SECaM), University of Exeter, UK

Education History

Ph.D. Department of Mathematics, Zhejiang University, China 2002

BS Department of Mathematics, Hangzhou University, China 1997

Past Work Experience

- 04/2007-02/2010, Research Associate, Department of Engineering Mathematics, University of Bristol, Mentor: Professor Colin Campbell

I am supported by an EPSRC grant which mainly involves the development of modern machine learning and statistical methods with targeted applications to Bioinformatics and cancer informatics.

- 08/2005-03/2007, Research Fellow, Department of Computer Science, University College London, Mentor: Professor Massimiliano Pontil

I was supported by an EPSRC-funded project. My main duty was to establish mathematical foundations for novel Machine Learning algorithms based on techniques from Statistics, Optimization, Functional Analysis, and Approximation Theory.

- 01/2003-07/2005, Postdoctoral Research Fellow, Department of Mathematics, City University of Hong Kong, Mentor: Professor Ding-Xuan Zhou.

I worked on a research enhancement project for young scholars from mainland China, funded by the City University of Hong Kong. This involved collaborative as well as independent research, also I collaborated on several projects in Learning Theory and Statistical Machine Learning

- 07/2002-12/2002, Postdoctoral Research Fellow, Institute of Mathematics, Chinese Academic of Science, Mentor: Professor Jiayu Li.

Research Focus: Harmonic analysis and Geometric PDE on Riemannian Manifold

Teaching Experience

- Instructor for the undergraduate course *Calculus and Linear Algebra*: Department of Computer Science, Zhejiang University (Fall 1999)
- Instructor for the undergraduate course *Advanced Calculus*: Department of Computer Science, Zhejiang University (Fall 2001)
- Teaching assistant for the graduate course *Research methods* by Dr. Mark Herbster: Department of Computer Science, University College London. My duty was to design the Matlab home work on classical machine learning algorithms (Spring 2007)
- Teaching assistant for the optimization course by Dr. Colin Campbell: Department of Engineering Mathematics, University of Bristol (Spring, 2009)

Invited Talks

- Imperial College London (07/05/2010)
- University of Birmingham (09/02/2009)
- University of Birmingham (09/02/2009)
- University of Glasgow (14/01/2009)

- University of Sheffield (04/11/2008)
- University of Sheffield (04/11/2008)
- University of Genova (23/12/2006)
- City University of Hong Kong (01/08/2004),

Journals Reviewed for

American Mathematical Society Reviewer, Journal of Machine Learning Research, IEEE Transactions on Neural Networks, Journal of Statistical Planning and Inference, Information Sciences, Advances in Computational Mathematics

Referees:

1. Prof. Ding-Xuan Zhou: Professor and Head

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3. Prof. Charles A. Micchelli: Distinguished Research Professor, Department of Mathematics and Statistics, The State University of New York at Albany

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4. Prof. Massimiliano Pontil: Reader, EPSRC Advanced Research Fellow

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5. Prof. Colin Campbell: Reader

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Webpage: <http://www.enm.bris.ac.uk/research/neural/staff/icgc.html>

Publications on Statistical Machine Learning

Preprints and Papers Under Reviewing

1. **Yiming Ying**, Qiang Wu, and Colin Campbell, [Learning the coordinate gradients](#), Submitted, 2009.
2. **Yiming Ying**, Colin Campbell and Mark Girolami, [Efficient SVM classification with indefinite kernels](#), Submitted, 2010.

Journal Papers

3. **Yiming Ying** and Colin Campbell, [Rademacher chaos complexity for learning the kernel problem](#), to appear in *Neural Computation*, 2010.
4. **Yiming Ying**, Kaizhu Huang, and Colin Campbell, [Enhanced protein fold recognition through a novel data integration approach](#), *BMC Bioinformatics*, (2009) 10: 267.
5. Phaedra Agius, **Yiming Ying**, and Colin Campbell, [Bayesian unsupervised learning with multiple data types](#), *Statistical Applications in Genetics and Molecular Biology*, Vol. 8 Iss. 1, 2009.
6. Andrea Capponetto, Charles A. Micchelli, Massimiliano Pontil, and **Yiming Ying**, [Universal multi-task kernels[†]](#), *J. of Machine Learning Research*, **9** (2008), 1615–1646.
7. **Yiming Ying** and Massimiliano Pontil, [Online gradient descent learning algorithms](#), *Foundations of Computational Mathematics*, **5** (2008), 561-596.
8. **Yiming Ying** and Ding-Xuan Zhou, [Learnability of Gaussians with flexible variances](#), *Journal of Machine Learning Research*, **8** (2007), 249-276.
9. **Yiming Ying**, [Convergence analysis of online algorithms](#), *Advances in Computational Mathematics*, **27** (2007), 273-291.

[†]Authors are in alphabetical order

10. Qiang Wu, **Yiming Ying**, and Ding-Xuan Zhou, [Multi-kernel regularized classifiers](#), *Journal of Complexity*, **23** (2007), 108–134.
11. **Yiming Ying** and Ding-Xuan Zhou, [Online regularized classification algorithms](#), *IEEE Trans. Inform. Theory*, **11** (2006), 4775–4788.
12. Qiang Wu, **Yiming Ying**, and Ding-Xuan Zhou, [Learning rates of least-square regularized regression](#), *Foundations of Computational Mathematics*, **6** (2005), 171–192.
13. 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, (2004), 101–134.
14. 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** (2004), 1143–1175.

Refereed Conference Papers

15. **Yiming Ying**, Colin Campbell and Mark Girolami, [Analysis of SVM with indefinite kernels](#), *Advances in Neural Information Processing Systems (NIPS)*, 2009.
16. **Yiming Ying**, Kaizhu Huang and Colin Campbell, [Sparse metric learning via smooth optimization](#), *Advances in Neural Information Processing Systems (NIPS)*, 2009.
17. Kaizhu Huang, **Yiming Ying** and Colin Campbell, [GSML: A unified framework for sparse metric learning](#), *IEEE International Conference on Data Mining (ICDM)*, 2009.
18. **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.
19. **Yiming Ying** and Colin Campbell, [Generalization bounds for learning the kernel](#), In *Proceedings of 22nd Annual Conference on Learning Theory (COLT)*, 2009.
20. Peng Li, **Yiming Ying**, and Colin Campbell, [A variational approach to semi-supervised clustering](#), *ESANN*, 2009.
21. **Yiming Ying** and Colin Campbell, [Learning coordinate gradients with multi-task kernels](#), In *Proceedings of 21st Annual Conference on Learning Theory (COLT)*, 2008.
22. **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.
23. Theodoros Damoulas, **Yiming Ying**, Mark Girolami, and Colin Campbell, [Inferring sparse kernel combinations and relevance vectors: an application to subcellular localization of proteins](#), In *Proceedings of International Conference of Machine Learning and Applications (ICMLA)*, 2008.

24. Andreas Argyriou, Charles A. Micchelli, Massimiliano Pontil, and **Yiming Ying**, [A spectral regularization framework for multi-task structure learning[†]](#), *NIPS*, 2007.

Journal Publications on Mathematics (Harmonic Analysis)

25. Jiayu Li and **Yiming Ying**, [Relations between local Hardy and Lorentz spaces](#), *Chinese Ann. Math. Ser. A* **26** (2005), no. 4, 459-462.
26. Chen Jiecheng and **Yiming Ying**, [Boundedness of rough singular integrals on product domains](#), Accepted by *J. Math. Anal. Appl.*, 2005.
27. Jiecheng Chen, Dashan Fan, and **Yiming Ying**, [A note on the Marcinkiewicz integral operator with rough kernel on product spaces](#), *Chinese Ann. Math. Ser. A* **24** (2003), no.6, 777-786.
28. **Yiming Ying** and Jiecheng Chen, [\$L^p\$ boundedness of a class of singular integrals on product domains](#), *Acta Math. Sinica* **46** (2003), no. 5, 833-842.
29. Jiecheng Chen, Dashan Fan, and **Yiming Ying**, [Certain operators with rough singular kernels](#), *Canad. J. Math.* **55** (2003), no. 3, 504-532.
30. Han Xu, Jiecheng Chen, and **Yiming Ying**, [A note on Marcinkiewicz integrals with \$H^1\$ kernels](#), *Acta Math. Sci. Ser. B* **23** (2003), no. 1, 133-138.
31. Jiecheng Chen, Dashan Fan, and **Yiming Ying**, [The method of rotation and Marcinkiewicz integrals on product domains](#), *Studia Math.* **153** (2002), no. 1, 41-58.
32. Jiecheng Chen, Dashan Fan, and **Yiming Ying**, [Singular integral operators on function spaces](#), *J. Math. Anal. Appl.* **276** (2002), no. 2, 691-708.
33. Jiecheng Chen, Dashan Fan, and **Yiming Ying**, [Rough Marcinkiewicz integrals with \$L\(\log^+ L\)^2\$ kernels on product spaces](#), *Adv. Math. (China)* **30** (2001), no. 2, 179-181.