

Yunlong Jiao

Chinese nationality
Born on December 26th, 1989
Tel: +44 (0)7400 724281
E-mail: yjiao@well.ox.ac.uk
Homepage: <https://YunlongJiao.github.io/>

Address:
Department of Statistics
24-29 St Giles'
Oxford OX1 3LB
United Kingdom

Education

PhD in Bioinformatics, [Center for Computational Biology](#), [MINES ParisTech](#), [PSL Research University](#), Paris, France, supervised by Prof. [Jean-Philippe Vert](#), obtained September 2017

Thesis title: "Rank-based Molecular Prognosis and Network-guided Biomarker Discovery for Breast Cancer"

MSc with highest mention in Mathematics for Life Sciences, [Department of Mathematics](#), [Université Paris-Sud \(Paris XI\)](#), Orsay, France, supervised by Prof. [Christophe Giraud](#), obtained July 2013

BSc with Honors in Mathematics and Applied Mathematics, [Department of Special Class for the Gifted Young](#), [University of Science and Technology of China \(USTC\)](#), Hefei, China, obtained July 2012

Professional Experience

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| Nov 2017 – Present | Postdoctoral research scientist at Wellcome Centre for Human Genetics and Department of Statistics , University of Oxford , Oxford, UK, working with Prof. Mark McCarthy and Prof. Chris Holmes |
| Mar 2016 – Jun 2016 | Research intern at Department of Computational Genomics , Centro de investigación Príncipe Felipe (CIPF) , Valencia, Spain, advised by Prof. Joaquín Dopazo Title: "Signaling Pathway Activities Improve Prognosis for Breast Cancer" |
| Apr 2015 – Jun 2015 | Data analyst intern at Department of System Integration and Product Care, Roche Diagnostics GmbH , Penzberg, Germany, working with Dr. Stefan Kobel Title: "Failure State Prediction for Automated Analyzers for Analyzing a Biological Sample" |
| Apr 2013 – Jul 2013 | Research intern at Center for Computational Biology , MINES ParisTech / Institut Curie / INSERM, U900 , Paris, France, advised by Prof. Jean-Philippe Vert Title: "Post-hoc Analysis on Competition-based Breast Cancer Prognosis Modeling" |
| Dec 2011 – Jun 2012 | Undergraduate Scientific Research Practice intern at Academy of Mathematics and Systems Science (AMSS) , Chinese Academy of Sciences , Beijing, China, supervised by Prof. Min Chen Title: "Credit Rating Migration: Models and Analysis" |

Awards & Distinctions

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| Sep 2013 – Sep 2016 | Early Stage Researcher Fellowship in Machine Learning for Personalized Medicine , a Marie Curie Initial Training Network, funded by the European Union within the 7th Framework Programme |
| Nov 2013 | 2nd place in DREAM 8 NIEHS-NCATS-UNC Toxicogenetics Challenge , an international bioinformatics competition, with E. Bernard, E. Scornet, V. Stoven, T. Walter and J.-P. Vert |
| Sep 2012 – Aug 2013 | Master scholarship from Fondation Mathématique Jacques Hadamard (FMJH) , Orsay, France |
| Dec 2011 – May 2012 | Undergraduate Scientific Research Practice Funding from Chinese Academy of Sciences , Beijing, China (total of 1000 winners nationwide) |
| Aug 2011 | Honorable Mention of 2nd S.-T. YAU College Student Mathematics Contest in Probability and Statistics (top 15 nationwide) |
| Dec 2010 – Jul 2012 | Selected into "Hua Loo-Keng" Elite Program in Mathematics, a USTC-AMSS joint training program |

Skills

Programming: skilled with R, C/C++, Bash, adequate with MATLAB, Python

Language: Chinese (native), English (fully proficient with IELTS/CEFR level C2), French (conversational), Spanish (basic/learning)

Research

Working Papers and Preprints

Jiao, Y. and Vert, J.-P. (2018). The weighted Kendall and high-order kernels for permutations. *arXiv preprint arXiv:1802.08526*.

Jiao, Y. and Vert, J.-P. (2017b). Network-based wavelet smoothing for analysis of genomic data.

Jiao, Y., Hidalgo, M. R., Çubuk, C., Amadoz, A., Carbonell-Caballero, J., Vert, J.-P., and Dopazo, J. (2017). Signaling pathway activities improve prognosis for breast cancer. *bioRxiv preprint bioRxiv-132357*.

Published Papers

Jiao, Y. and Vert, J.-P. (2017a). The Kendall and Mallows kernels for permutations. *IEEE Trans. Pattern Anal. Mach. Intell. (TPAMI)*, PP(99):1–1. In press.

Bernard, E., **Jiao, Y.**, Scornet, E., Stoven, V., Walter, T., and Vert, J.-P. (2017). Kernel multitask regression for toxicogenetics. *Mol. Inform.*, 36(10):1700053.

Jiao, Y., Korba, A., and Sibony, E. (2016a). Controlling the distance to a Kemeny consensus without computing it. In *Proc. Int. Conf. Mach. Learn. (ICML)*, volume 48 of *Proc. Mach. Learn. Res. (PMLR)*, pages 2971–2980.

Eduati, F., Mangravite, L. M., Wang, T., Tang, H., Bare, J. C., Huang, R., Norman, T., Kellen, M., Menden, M. P., Yang, J., Zhan, X., Zhong, R., Xiao, G., Xia, M., Abdo, N., Kosyk, O., **The NIEHS-NCATS-UNC DREAM Toxicogenetics Collaboration**, Friend, S., Dearry, A., Simeonov, A., Tice, R. R., Rusyn, I., Wright, F. A., Stolovitzky, G., Xie, Y., and Saez-Rodriguez, J. (2015). Prediction of human population responses to toxic compounds by a collaborative competition. *Nat. Biotechnol.*, 33(9):933–940.

Jiao, Y. and Vert, J.-P. (2015). The Kendall and Mallows kernels for permutations. In *Proc. Int. Conf. Mach. Learn. (ICML)*, volume 37 of *Proc. Mach. Learn. Res. (PMLR)*, pages 1935–1944.

Patents and Patent Applications

Jiao, Y., Vert, J.-P., Heinemann, F., Dahlmanns, S., and Kobel, S. (2016b). Failure state prediction for automated analyzers for analyzing a biological sample. Pending European patent filed by Roche Diagnostics GmbH, F. Hoffmann–La Roche AG, December 2016.

Software

kernrank — R package implementing kernel functions and kernel methods for analyzing rank data, publicly available on GitHub, **author and maintainer**.

kmr — R implementation of a kernel multitask regression algorithm to solve simultaneously several regression problems, publicly available on GitHub, **co-author** with J.-P. Vert.