Yunlong Jiao

Chinese nationality
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Education

PhD in Bioinformatics, Center for Computational Biology, Doctoral School of Engineering Sciences, MINES ParisTech, 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

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. Joaquin 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

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 (proficient with certified CEFR level C2), French (conversational)

Research

Working Papers and Preprints

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

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. Submitted. bioRxiv preprint bioRxiv-132357.

Jiao, Y. and Vert, J.-P. (2017a). The Kendall and Mallows kernels for permutations. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, PP(99):1–1. In press. HAL preprint HAL-01279273.

Published Papers

Bernard, E., **Jiao, Y.**, Scornet, E., Stoven, V., Walter, T., and Vert, J.-P. (2017). Kernel multitask regression for toxicogenetics. *Molecular Informatics*, 36(10):1700053. bioRxiv preprint bioRxiv-171298.

Jiao, Y., Korba, A., and Sibony, E. (2016a). Controlling the distance to a Kemeny consensus without computing it. In Balcan, M. F. and Weinberger, K. Q., editors, *Proceedings of the 33rd International Conference on Machine Learning (ICML)*, volume 48 of *Proceedings of Machine Learning Research (PMLR)*, pages 2971–2980, New York, New York, USA. PMLR.

Eduati, F., Mangravite, L., Wang, T., Tang, H., Bare, J., Huang, R., Norman, T., Kellen, M., Menden, M., Yang, J., and **NIEHS–NCATS–UNC DREAM Toxicogenetics Collaboration** (2015). Prediction of human population responses to toxic compounds by a collaborative competition. *Nature Biotechnology*, 33(9):933–940.

Jiao, Y. and Vert, J.-P. (2015). The Kendall and Mallows kernels for permutations. In Blei, D. and Bach, F., editors, *Proceedings of the 32nd International Conference on Machine Learning (ICML)*, volume 37 of *Proceedings of Machine Learning Research (PMLR)*, pages 1935–1944, Lille, France. PMLR.

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.