

Kevin Y.X. Wang

Statistician and Data Scientist

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Experience

- 2019–2020 **Research Associate**, *University of Sydney*.
- Developed a clinically implementable prediction model using genomics data with clinicians and biologists.
 - Developed and maintained open-sourced R software packages.
 - Designed and hosted cloud-based workshops.
- 2016–2019 **Postgraduate Teaching Fellow**, *University of Sydney*.
- Authored lecturing materials for courses at both undergraduate and postgraduate level with strong positive student feedback.
 - Delivered lectures (200+ students) and tutorials, covering 15 different courses, including statistics, mathematics and data science.
 - Mentored and trained new statistics tutors.
- 2016 **Summer Research Scholar in Bioinformatics**, *Charles Perkins Centre*.
Research in visualising gene interaction networks for cancers (3 months)
- 2015 **Summer Research Scholar in Mathematical Statistics**, *Australian National University*.
Research in model selection and averaging techniques (3 months)
- 2013 **Research Internship in Mathematical Biology**, *Winston Charitable Foundation*.
Research in spread of infectious parasites in a beehive (2 months)

Education

- 2016–2020 **Doctor of Philosophy in Science**, *University of Sydney*.
- Research in statistics and bioinformatics.
 - The PhD thesis develops methods to enable prediction of patient clinical outcomes using omics data under a rigorous statistical framework.
- 2012–2015 **Bachelor of Science (Adv. Mathematics) (Hon. I)**, *University of Sydney*.
- Major in statistics and financial mathematics.
 - The Honours thesis examines the effect of different measures of association in human brain connectivity modelling utilising functional MRI data.

Skills

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| Applied statistics | Highly experienced at the research level. Specialisation in regression-type prediction models. |
| R & git | Highly proficient in scripting, tidyverse, shiny and package development with unit testing, continuous integration and coverage testing. |
| docker & Google Cloud | Proficient in building docker images and deployment through Google Cloud. |
| python & SQL | Working knowledge in writing basic scripts. |

Volunteering

- 2016-2019 **Outreach volunteer**, *University of Sydney*.
Delivered seminars and hands-on workshops for visiting high school and university students.
- 2017 **President**, *Sydney University Mathematics Society*.
Oversaw finances of the Society, organised academic/industry events and negotiated corporate sponsorships for three years.
- 2015 **President**, *Sydney University Statistics Society*.
Organised academic/industry events and negotiating corporate sponsorships.

Awards

- 2019 **Statistical Society of Australia**, *JB Douglas Award (joint runner-up). Prize awarded to the top statistics research PhD students in New South Wales. AUD 250.*
- 2019 **Statistical Society of Australia**, *Golden Jubilee Travel Grant. Competitive funding for a statistics PhD student in Australia. AUD 1,000.*
- 2018 **Sydney Bioinformatics Research Symposium**, *Best poster student presentation at the conference. AUD 50.*
- 2017 **International Biometric Society - Australasian Region**, *Best student talk at the conference. AUD 500.*
- 2017 & 2018 **Australian Bioinformatics & Computational Biology Society**, *Travel scholarship to ABACBS annual conference. AUD 250.*
- 2016-2019 **Australian Postgraduate Award**, *For the duration of PhD program at the University of Sydney. AUD 26,288 p.a.*
- 2015 **International Biometric Society - Australasian Region**, *Awarded to the top biostatistics student undertaking a Honours program. AUD 1,500.*

Publications

- 1 **Wang, K.Y.X.**, Tarr, G., Yang, J.Y.H., Mueller, S. **2019**. Fast and approximate exhaustive variable selection for generalised linear models with APES, Invited paper to *Australia & New Zealand Journal of Statistics*, 61 (4) 445-465.
- 2 Lin, Y., Ghazanfar, S., **Wang, K.Y.X.**, Gagnon-bartsch, J.A., Lo, K.K., Han, Z., Ormerod, J.T., Speed, T.P., Yang, P., Yang, J.Y.H. **2019**. scMerge: Leveraging factor analysis, stable expression and pseudo-replication to merge multiple single-cell RNA-seq data, *Proceedings of the National Academy of Sciences of the United States of America*, 116 (20) 9775-9784.
- 3 Pires da Silva, I., **Wang, K.Y.X.**, Wilmott, J.S., Holst, J., Carlino, M.S., Park, J.J., Quek, C., Wongchenko, M., Yan, Y., Mann, G., Johnson, D.B., McQuade, J.L., Rai, R., Kefford, R.F., Rizos, H., Scolyer, R.A., Yang, J.Y.H., Long, G. V, Menzies, A.M. **2019**. Distinct molecular profiles and immunotherapy treatment outcomes of V600E and V600K BRAF-mutant melanoma. *Clinical Cancer Research*, 25 (4) 1272-1279.
- 4 **Wang, K.Y.X.**, Menzies, A.M., Silva, I.P., Wilmott, J.S., Yan, Y., Wongchenko, M., Kefford, R.F., Scolyer, R.A., Long, G. V, Tarr, G., Mueller, S., Yang, J.Y.H. **2019**. bcGST - an interactive bias-correction method to identify over-represented gene-sets in boutique arrays. *Bioinformatics*, 35 (8) 1350-1357.
- 5 Strbenac, D., **Wang, K.Y.X.**, Wang, X., Dong, J., Mann, G.J., Mueller, S., Yang, J.Y.H. **2019**. Melanoma Explorer: a web application to allow easy reanalysis of publicly available and clinically-annotated melanoma omics datasets. *Melanoma Research*.

Presentations

- Workshop
- "Single-cell RNA-Seq analysis from beginning to end" at Hong Kong University (2019), Sydney University (2019) and Cornell University (2020).
 - "Enter the Tidyverse with R and RStudio" at BioinfoSummer (2019).
 - "Fast algorithms and modern visualisations for feature selection" at Joint International Society for Clinical Biostatistics and Australian Statistical Conference (2018).
- Talks
- 2019 International Conference on Econometrics and Statistics (invited)
 - 2019, 2017 International Biometrics Society - Australasian Region Conference
 - 2018 Australian Bioinformatics & Computational Biology Society Conference
 - 2018 Joint Statistical Meeting
 - 2017 International Conference in Robust Statistics
 - 2016 Australian Statistical Conference