EMI TANAKA

💼 WORK EXPERIENCE

● Senior Lecturer / Lecturer

Monash University,
Department of Econometrics and Business Statistics

2020 - current

● Lecturer

The University of Sydney,
School of Mathematics and Statistics

2017 - 2019

● Research fellow

University of Wollongong,
School of Mathematics and Applied Statistics

2014 - 2017

🎓 EDUCATION

PhD, Statistics

Statistical Methods for Improving Motif Evaluation
Supervisor: Dr. Uri Keich
School of Mathematics and Statistics
The University of Sydney, Sydney, Australia, 2015

Bachelor of Science (Advanced Mathematics), Honours I

Major in Mathematics and Statistics
The University of Sydney, Sydney, Australia, 2010

📖 PUBLICATIONS

1. Tanaka, E & Amaliah, D (2022) Current state and prospects of r-packages for the design of experiments. 10.48550/arxiv.2206.07532
2. Amaliah, D, Cook, D, Tanaka, E, Hyde, K, & Tierney, N (2022) A journey from wild to textbook data to reproducibly refresh the wages data from the national longitudinal survey of youth database. *Journal of Statistics and Data Science Education*, 0 (ja), 1-27. 10.1080/26939169.2022.2094300
3. Tanaka, E, Leung, J, & Cook, D (2022) Commentary on "visualization in operations management research": Incorporating statistical thinking into visualization practices for decision making in operational management. *INFORMS Journal on Data Science* 10.1287/ijds.2021.0008

📇 Contact

✉ emi.tanaka@monash.edu

🐙 github.com/emitanaka

🐦 @statsgen

For more information, please contact me via email.

🔧 Skills

Expert: R, HTML/CSS, LaTeX
Intermediate: Git/GitHub, Python, Bash, JS
Languages: English (fluent) and Japanese (conversational)

🔖 Interests

Research: experimental design, mixed models, data visualisation, visual inference, bioinformatics, statistical genetics, selective breeding, software development, statistical workflow
Non-Research: drawing (but not good at it), reading (manga, manhwa and non-fiction books)

This resume was made with the R package
pagedown.
Last updated on 2022-08-13.

4. Cook, D, Reid, N, & Tanaka, E (2021) The foundation is available for thinking about data visualization inferentially. *Harvard Data Science Review* 10.1162/99608f92.8453435d *Citations: 4*.

5. Morota, G, Cheng, H, Cook, D, & Tanaka, E (2021) ASAS-NANP SYMPOSIUM: Prospects for interactive and dynamic graphics in the era of data-rich animal science. *Journal of animal science*, 99 (2) 10.1093/jas/skaa402 *Citations: 4*.

6. Tanaka, E (2020) Simple outlier detection for a multi-environmental field trial. *Biometrics*, 76 (4), 1374-1382. 10.1111/biom.13216 *Citations: 8*.

7. Tanaka, E & Hui, F (2019) Symbolic formulae for linear mixed models. *Statistics and data science*, 3-21. 10.1007/978-981-15-1960-4_1 *Citations: 3*.

8. Hui, F, Tanaka, E, & Warton, D (2018) Order selection and sparsity in latent variable models via the ordered factor LASSO. *Biometrics*, 74 (4), 1311-1319. 10.1111/biom.12888 *Citations: 15*.

9. Norman, A, Taylor, J, Tanaka, E, Telfer, P, Edwards, J, Martinant, J, & Kuchel, H (2017) Increased genomic prediction accuracy in wheat breeding using a large australian panel. *Theoretical and applied genetics*, 130 (12), 2543-2555. 10.1007/s00122-017-2975-4 *Citations: 31*.

10. Tanaka, E, Ral, J, Li, S, Gaire, R, Cavanagh, C, Cullis, B, & Whan, A (2017) Increased accuracy of starch granule type quantification using mixture distributions. *Plant methods*, 13, 107. 10.1186/s13007-017-0259-2 *Citations: 6*.

11. Tanaka, E (2014) Statistical methods for improving motif evaluation. *PhD Thesis*

12. Tanaka, E, Bailey, T, & Keich, U (2014) Improving MEME via a two-tiered significance analysis. *Bioinformatics*, 30 (14), 1965-1973. 10.1093/bioinformatics/btu163 *Citations: 20*.

13. Liachko, I, Tanaka, E, Cox, K, Chung, S, Yang, L, Seher, A, Hallas, L, Cha, E, Kang, G, Pace, H, Barrow, J, Inada, M, Tye, B, & Keich, U (2011) Novel features of ARS selection in budding yeast lachancea kluyveri. *BMC genomics*, 12, 633. 10.1186/1471-2164-12-633 *Citations: 26*.

14. Tanaka, E, Bailey, T, Grant, C, Noble, W, & Keich, U (2011) Improved similarity scores for comparing motifs. *Bioinformatics*, 27 (12), 1603-1609. 10.1093/bioinformatics/btr257 *Citations: 56*.

Citation counts are sourced from Google Scholar at 2022-08-13.

</> SOFTWARE

My software contributions can be found at **https://github.com/emitanaka**.

R edibble

An R-package that implements the grammar of experimental design.
Creator and maintainer. GitHub stars: 166
🔗 Source: https://github.com/emitanaka/edibble
🔗 Documentation: https://edibble.emitanaka.org

® flipbookr

An R-package that parses code, creates partial code builds, delivers code movie
Author. GitHub stars: 184
🔗 Source: https://github.com/EvaMaeRey/flipbookr
🔗 Documentation: https://evamaerey.github.io/flipbookr/

® anicon

An R-package to insert animated icons for R markdown and Shiny apps.
Creator. GitHub stars: 121
🔗 Source: https://github.com/emitanaka/anicon

® simulate

An R-package for a parametric simulation framework to generate complex multivariate and multilevel data.
Creator and maintainer. GitHub stars: 1
🔗 Source: https://github.com/emitanaka/simulate

® nestr

An R-package to build hierarchical or nested sturctures.
Creator and maintainer. GitHub stars: 13
🔗 Source: https://github.com/emitanaka/nestr
🔗 Documentation: https://nestr.emitanaka.org

® monash

A utility R-package with consolidated tools and templates for staffs at Monash University.
Creator and maintainer. GitHub stars: 11
🔗 Source: https://github.com/numbats/monash

® sugar

An R-package for instructors to create a shiny app for particular unit to review grade and attendance of students.
Supervisor.GitHub stars: 1
🔗 Source: https://github.com/numbats/sugar
🔗 Documentation: https://numbats.github.io/sugar/

® xaringan

An R package for creating slideshows with remark.js through R Markdown.
Contributor. My contribution is the adaptation of the ninja-theme shown in the Documentation. GitHub stars: 1370
🔗 Source: https://github.com/yihui/xaringan
🔗 Documentation: https://github.com/emitanaka/ninja theme

® anidb

An R-package to fetch data from the anime database at AniDB.
Creator and maintainer. GitHub stars: 1

        ⊘ Source: https://github.com/emitanaka/anidb

® ggmatplot

Plot Columns of Two Matrices Against Each Other Using 'ggplot2'
Author. GitHub stars: 4
⊘ Source: https://github.com/xuan_liang/ggmatplot
⊘ Documentation: https://xuan_liang.github.io/ggmatplot/

® gghdr

Plots of highest density regions (HDR) for ggplot2.
Listed as author but my contribution is small. GitHub stars: 41
⊘ Source: https://github.com/ropenscilabs/gghdr
⊘ Documentation: https://ropenscilabs.github.io/gghdr

® shinycustomloader

Add a custom loader for R shiny.
Creator. GitHub stars: 110
⊘ Source: https://github.com/emitanaka/shinycustomloader

® datalegreyar

Datalegreya, the typeface that melts text and data visualisation, for
R markdown.
Creator. GitHub stars: 41
⊘ Source: https://github.com/emitanaka/datalegreyar

</> Tomtom

A motif comparison tool part of the MEME Suite.
*The -incomplete-scores is an implementation as a result of Tanaka
et al. (2011).*
⊘ Documentation: https://meme_suite.org/meme/doc/tomtom.html

💬 TALKS

Links to the slides (if available) are at **https://emitanaka.org/talks.html**.
Below show the last 10 talks.

- **The genesis of experimentation**
  Ihaka Lecture Series
  2022-07-28

- **Getting the Most Out of Your Experimental Data With Design**
  Monash Data Futures Insitute
  2022-07-07

- **Current state and prospects of R-packages for the design of experiments**
  Statistical Society of Australia Canberra Branch
  2022-06-29

- **The tale of experimental designs**
  University of Glasgow Statistics Seminar

2022-05-20

● An anthology of experimental designs
Toronto Data Workshop
2022-03-25

● The Art of Design: Software & Experimental Design
R-Ladies Melbourne
2021-10-26

● Current state and prospects of R-package for the
design of experiments
University of Auckland Statistics Seminar
2021-10-14

● The Grammar of Experimental Design
Japanese Joint Statistical Meeting
2021-09-06

● Visual Inference
FukuokaR
2021-03-27

● The Grammar of Experimental Design
TokyoR
2021-01-23

🧰 WORKSHOPS

Workshop	Date	Location	Host
Data Visualisation with R	21-22 Feb 2021	Online	methods @ manchester
Advanced Data Visualisation with R	8-9 Dec 2021	Online	Statistical Society of Australia, Canberra Branch
Data Visualisation with R	6 Dec 2021	Online	Statistical Society of Australia, NSW Branch
Data Visualisation with R	15-16 Apr 2021	Online	Statistical Society of Australia, Canberra Branch
Data Wrangling with R	1-2 Dec 2020	Online	Statistical Society of Australia, NSW Branch
Data Visualisation with R	11-12 Nov 2020	Online	Statistical Society of Australia, Victoria Branch
Data Visualisation with R	28-29 Jul 2020	Online	Statistical Society of Australia, Victoria Branch
Tidyverse & R Markdown	1 Dec 2019	Adelaide	International Biometrics Society,

Workshop	Date	Location	Host
Australasia Region			
Building R Packages & R Markdown	19 Nov 2019	Melbourne	Statistical Society of Australia, Victoria Branch
Communicating with Data via R Markdown	4 Oct 2019	Sydney	COMBINE (subcommittee of ABACBS)
Gaining skills in biostatistical consultancy	4 Jul 2019	Melbourne	Statistical Society of Australia, Biostatistics Section
Statistical Methods for Omics Assisted Breeding	12-15 Nov 2018	Tokyo	University of Tokyo

🏫 TEACHING

- ETC5523: Communicating with Data
- ETC5512: Wild-Caught Data
- ETC5521: Explonatory Data Analysis
- STAT3012: Applied Linear Models
- STAT5002: Introduction to Statistics
- STAT906: Experimental Design

🛎 PROFESSIONAL SERVICE

- **Associate Editor**
  R Journal, https://journal.r project.org/
  2022/02-ongoing

- **President**
  Statistical Society of Australia, Victoria Branch
  2021/03-ongoing

- **Vice President**
  Statistical Society of Australia, Victoria Branch
  2023/03-2024/03

- **Assistant Secretary**
  Statistical Society of Australia, NSW Branch
  2017/03-2018/03

- **Secretary**
  Statistical Society of Australia, NSW Branch

2018/03-2020/03

● Social Media Coordinator

International Biometrics Society, Australaisan Region

2018/01-ongoing

● Member

useR! 2021, Program Committee

2021/03-2021/03

● Member

Australasian Applied Statistics Conference
2020/2022, Organising Committee

2020/01-ongoing

● Member

Australasian Applied Statistics Conference 2016,
Program and Review Committee

2016/07-2016/12

● Chair

Australasian Applied Statistics Conference 2016,
Local Organisation Committee

2016/01-2016/12

👥 PROFESSIONAL MEMBERSHIPS

- Statistical Society of Australia
- International Biometrics Society

🏅 AWARDS & DISTINCTIONS

● SSA President's Award for Leadership in Statistics,
awarded to the 2020-2022 Branch Councils

Statistical Society of Australia

2022

● Distinguished Presenter's Award

Statistical Society of Australia

2021

● ARC Centre of Excellence

Associate Investigator
ARC Centre of Excellence for Mathematical and Statistical
Frontiers (ACEMS)

Australian Research Council

2020

ARC Industrial Transformation Training Centre

Chief Investigator
Data Analytics for Resources and Environments (DARE)
Australian Research Council

2019

$3,973,202

R Consortium Grant

Lead Investigator
Symbolic Formulae for Linear Mixed Models
R Consortium

2019

$6,000

Sydney Institute of Agriculture Research Project Grant

Chief Investigator
Land surface models of carbon and water do not work in
agricultural landscapes where it actually matters they work
Sydney Institute of Agriculture

2018

$90,000

Faculty of Science Research Equipment and Infrastructure Scheme

Chief Investigator
Sydney bioinformatics and biometrics big data research server
The University of Sydney

2018

$36,040

J.B. Douglas Award

Nomination and Prize
Statistical Society of Australia, NSW Branch

2011

$500

Tim Brown Prize II

The University of Sydney

2008

$275

Barker Scholarship IV

The University of Sydney

2008

$750