Curriculum Vitae

April 12, 2023

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School of Data Science, Meisei University
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Current Position

Associate Professor at School of Data Science, Meisei University

Areas of Specialization

Mathematical Statistics; Discriminant analysis; High-dimensional data analysis; Robust statistics; Bayesian analysis; Contingency tables; Spatio-Temporal analysis

Education

- Ph.D (Science): 2015.4–2018.3
  Department of Mathematics, Graduate School of Science, Hiroshima University.
- M.A. (Science): 2013.4–2015.3
  Department of Mathematics, Graduate school of Science, Hiroshima University.
- B.A. (Science): 2009.4–2013.3
  Department of Mathematics, Faculty of Science, Hiroshima University.
- Moji Daishoukan High School, 2006.4–2009.3.

Employments

- Associate Professor: 2023.4–present
  School of Data Science, Meisei University.
- Visiting Associate Professor: 2023.4–present
  Department of Information Sciences, Tokyo University of Science.
- Visiting Associate Professor: 2023.4–present
  Statistical Science Research Division, Tokyo University of Science.
- Junior Associate Professor: 2022.4–2023.3
  Department of Information Sciences, Tokyo University of Science.
- Member: 2022.4–2023.3
  Medical Data Sciences, Tokyo University of Science.

- Member: 2020.4–2023.3
  Statistical Science Research Division, Tokyo University of Science.
- Assistant Professor: 2018.4–2022.3
  Department of Information Sciences, Tokyo University of Science.
- Part-time Lecturer: 2015.4–2018.3
  Faculty of Engineering, Kindai University.

Grants

- Principal Investigator: 2023.4.1–2026.3.31
  Grant-in-Aid for Early-Career Scientists
- Principal Investigator: 2019.4.1–2023.3.31
  Grant-in-Aid for Early-Career Scientists
- Co-Investigator: 2021.4.1–2025.3.31
  Grant-in-Aid for Scientific Research (B)
- Co-Investigator: 2020.4.1–2025.3.31
  Grant-in-Aid for Scientific Research (C)

Awards

- JSAS Best Poster Award, 2021.5.15

Research Abroad

- Visiting Researcher (Mentor: Prof. Samuel Subbey and Prof. Hiroko K. Solvang)
  Project: MarPro-PROVEN (project nr. 14412)
  Institute of Marine Research, 2017.8.20–2017.9.30

Membership

- Japan Statistical Society, 2014.5.26–present.
- The mathematical Society of Japan, 2016.10.1–present.
- Japanese Society of Applied Statistics, 2019.4.1–present.
- American Mathematical Society Reviewer for Mathematical Reviews, 2022.3.10–present.
- Japanese Society of Computational Statistics, 2022.4.1–present.

Publications

- Published and Accepted Papers (Peer-reviewed)

1. T. Momozaki, Y. Wada, T. Nakagawa and S. Tomizawa (2023), Extension of Generalized Proportional Reduction in Variation Measure for Two-Way Contingency Tables. *Behaviormetrika*, Vol.**50**, No.1, 385–398.
   (DOI: `https://doi.org/10.1007/s41237-022-00186-8`)
2. T. Momozaki, T. Nakagawa, K. Iki and S. Tomizawa (2023), An Index for the Degree and Directionality of Asymmetry for Square Contingency Tables with Ordered Categories. *Austrian Journal of Statistics*, Vol.**52**, No.1, 62–71.
   (DOI: `https://doi.org/10.17713/ajs.v52i1.1382`)

3. S. Sugasawa, T. Nakagawa, H. K. Solvang, S. Subbey and S. Alrabeei (2022), Dynamic Spatio-temporal Zero-inflated Poisson Models for Predicting Capelin Distribution in the Barents Sea. *Japanese Journal of Statistics and Data Science*, Published Online. (DOI: https://doi.org/10.1007/s42081-022-00183-x)

4. M. Hyodo, H. Watanabe, S. Nakagawa and T. Nakagawa (2022), Normalizing transformation of Dempster type statistic in high-dimensional settings. *Communications in Statistics–Theory and Methods*, Published Online. (DOI: https://doi.org/10.1080/03610926.2022.2056749)

5. Y. Saigusa, N. Fukumoto, T. Nakagawa and S. Tomizawa (2022), Measure of departure from conditional partial symmetry for square contingency tables. *Journal of Mathematics and Statistics*, **18**, No.1, 138–142. (DOI: https://doi.org/10.3844/jmssp.2022.138.142)

6. T. Nakagawa, S. Ohtsuka (2022), An asymptotic expansion for the distribution of Euclidean distance-based discriminant function in Normal populations. *Journal of Statistical Theory and Practice*, **16**, No.4, Article number: 62. (DOI: https://doi.org/10.1007/s42519-022-00292-6).

7. K. Saito, N. Takakubo, A. Ishii, T. Nakagawa and S. Tomizawa (2022), Measures of Departure from Local Marginal Homogeneity for Square Contingency Tables. *Symmetry* **14**(6), 1075. (DOI: https://doi.org/10.3390/sym14061075).

8. 田中 蘭, 綿川 日菜, 中川 智之, 小林 正弘, 田畑 耕治, 松澤 智史 (2022), 記述式評価データを用いた推薦システムの試作, オペレーション・リサーチ, **66**, 2, 64–72. (in Japanese)

9. T. Nakagawa, R. Namba, K. Iki and S. Tomizawa (2021), Improved approximate unbiased estimators of the measure of departure from partial symmetry for square contingency tables. *SUT Journal of Mathematics*, Vol. **57**, No. 2, 167–183. (DOI: https://doi.org/10.55937/sut/1641859470)

10. T. Momozaki, T. Nakagawa, A. Ishii, Y. Saigusa and S. Tomizawa (2021), Two-dimensional index of departure from the symmetry model for square contingency tables with nominal categories. *Symmetry* **13**(11), 2031. (DOI: https://doi.org/10.3390/sym13112031)

11. T. Nakagawa, H. Watanabe and M. Hyodo (2021), Kick-one-out-based variable selection method for Euclidean distance-based classifier in high-dimensional setting. *Journal of Multivariate Analysis*, **184**, 104756. (DOI: https://doi.org/10.1016/j.jmva.2021.104756)

12. T. Nakagawa and S. Hashimoto (2021), On default priors for robust Bayesian estimation with divergences. *Entropy*, **23**(1), 29. (DOI: https://doi.org/10.3390/e23010029)

13. T. Nakagawa, T. Takei, A. Ishii and S. Tomizawa (2020), Geometric mean type measure of marginal homogeneity for square contingency tables with ordered categories. *Journal of Mathematics and Statistics*, **16**, No.1, 170–175. (DOI: https://doi.org/10.3844/jmssp.2020.170.175)

14. Y. Saigusa, T. Takada, A. Ishii, T. Nakagawa and S. Tomizawa (2020), Measure of departure from cumulative local symmetry for square contingency tables having ordered categories. *Biometrical Letters: Journal of the Polish Biometric Society*, **57**, No.1, 23–35. (DOI: https://doi.org/10.2478/bile-2020-0003)

15. T. Nakagawa and S. Hashimoto (2020), Robust Bayesian inference based via γ-divergence. *Communications in Statistics–Theory and Methods*, VOL. **49**, NO.2, 343–360. (DOI: https://doi.org/10.1080/03610926.2018.1543765)

16. Y. Saigusa, M. Takami, A. Ishii, T. Nakagawa and S. Tomizawa (2019), Measure for departure from cumulative partial symmetry for square contingency tables with ordered categories. *Journal of Statistics: Advances in Theory and Applications* Vol.**21**, No.1, 53–70. (DOI: http://dx.doi.org/10.18642/jsata_7100122036)

17. T. Nakagawa, S. Subbey and H. K. Solvang (2019), Integrating Hawkes process- and Biomass Models to Capture Impulsive Population Dynamics. *Dynamics of Continuous, Discrete and Impulsive Systems Series B : Applications & Algorithms* Vol.**26**, No.3, 153-170.

18. T. Nakagawa (2018), Estimating the probabilities of misclassification using CV when the dimension and the sample sizes are large. *Hiroshima Mathematical Journal*, Vol.**48**, No.3, 474–411. (DOI: https://doi.org/10.32917/hmj/1544238034)

19. T. Nakagawa and H. Wakaki (2017), Selection of the linear and the quadratic discriminant functions when the difference between two covariance matrices is small. *Journal of the Japan Statistical Society*, Vol.**47**, No.2, 145–165. (DOI: https://doi.org/10.14490/jjss.47.145)

20. T. Tonda, T. Nakagawa and H. Wakaki (2017), EPMC Estimation in Discriminant Analysis when the Dimension and Sample Sizes are Large. *Hiroshima Mathematical Journal*, Vol. **47**, No.1, 43–62. (DOI: https://doi.org/10.32917/hmj/1492048847)

● Proceedings (Peer-reviewed)

21. 熊澤努, 地嵜頌子, 中川智之, 室井浩明, 渡邉卓也 (2022), 深層学習における正則化へのドロップアウトデザインの適用. 「ソフトウェア・シンポジウム 2022 論文集」, 1–10. (in Japanese)

● Preprints and Working Papers

22. T. Momozaki and T. Nakagawa (2022), Robustness against outliers in ordinal response model via divergence approach. arXiv:2209.11965.

23. W. Urasaki, T. Nakagawa, T. Momozaki and S. Tomizawa (2022), Generalized Cramér's coefficient via f-divergence for contingency tables. arXiv.2204.11442. (Submitted)

24. T. Nakagawa, T. Momozaki, K. Cho and S. Tomizawa (2022), Choice of the Dirichlet parameter to estimate measures for square contingency tables. *RIMS kokyuroku*, No.2221, 20–29. (in Japanese).

25. T. Momozaki, K. Cho, T. Nakagawa and S. Tomizawa (2021), Estimation of Measures for Two-Way Contingency Tables Using the Bayesian Estimators. arXiv:2109.09339. (Submitted)

26. T. Nakagawa (2019), Objective prior for the robust Bayesian estimation. *RIMS kokyuroku*, No.2133, 40–49 (in Japanese).

27. T. Nakagawa (2018), Bias correction methods by using cross-validation for estimating the expected probabilities of misclassification. *RIMS kokyuroku*, No.2091, 38–54. (in Japanese)

28. T. Nakagawa and S. Hashimoto (2017), Comparison of two Robust Bayes estimations using the divergence under heavy contamination. *RIMS kokyuroku*, No.2047, 55–66, (in Japanese).

29. N. Chanohara, T. Nakagawa and H. Wakaki (2017), Estimation of covariance matrix via shrinkage Cholesky factor. *Hiroshima Statistical Research Group Technical Report*. 17–03.

● Book

1. M. Hyodo, T. Nakagawa, H. Watanabe (2022), *A First Course in Statistics with R*, Kyoritsu Shuppan, (in Japanese).