Young Eun Jeon

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Education

Yeungnam University *Mar 2018 – Feb 2024*
Ph.D. in Statistics

- GPA: 4.41/4.5
- Thesis: Interval estimation using the pivotal quantity and Monte Carlo simulation in spatial regression models
- Advisor: Suk-Bok Kang, Professor of Statistics

Yeungnam University *Mar 2014 – Feb 2018*
B.S. in Statistics

- GPA: 4.41/4.5
- Advisor: Minjung Kwak, Professor of Statistics

Research Interests

- Copula
- Machine / Deep Learning
- Spatial Statistics
- Spatio-temporal Modeling
- Statistical Inference
- Text Mining
- Time Series

Experiences

Work

Statistics Research Institute of Yeungnam University *Mar 2018 – Feb 2024*

Korea Institute for Industrial Economic Policy

- R&D and Non-R&D Monitoring for Gyeongbuk Technopark. *Nov 2018 – Dec 2018*
- 2019 Integrity Survey Analysis for Ulsan Metropolitan Office of Education. *Jun 2019 – Jul 2019*
- 2019 Customer Satisfaction Survey Analysis for Nadri Call. *Jun 2019 – Jul 2019*
- 2020 Integrity Survey Analysis for Ulsan Metropolitan Office of Education. *Jun 2020 – Jun 2020*

Korea Dyeing and Finishing Technology Institute *Apr 2019 – May 2019*

Teaching

Gyeongkuk National University *Sep 2022 – Present*
Department of Data Science

- Data Mining
- R Data Analysis
- R Programming
- Mathematical Statistics
- Multivariate Data Analysis
- Time Series Analysis

Statistics Research Institute of Yeungnam University

- 2021 SPSS Workshop, Yeungnam University Statistical Research Institute. *Jun 2021 – Jun 2021*
- 2019 SPSS Workshop, Yeungnam University Statistical Research Institute. *Jun 2019 – Jun 2019*
- 2018 SPSS Workshop, Yeungnam University Statistical Research Institute. *Jun 2018 – Jun 2018*

Publications

1. Lee, J., **Jeon, Y.E.**, and Seo, J.I. (2025). An integrated oversampling and noise reduction method for robust predictive analytics. *Decision Analytics Journal*, 16, 100612, https://doi.org/10.1016/j.dajour.2025.100612.

2. **Jeon, Y.E.**, Kim, Y., and Seo, J.I. (2025). Objective framework for Bayesian inference in multicomponent Pareto stress–strength model under an adaptive progressive Type-II censoring scheme. *Mathematics*, 13, 1379, https://doi.org/10.3390/math13091379.

3. **Jeon, Y.E.**, Kim, Y., and Seo, J.I. (2025). Extreme value model under an adaptive progressive Type-II censoring: Application of a pivotal quantity. *Communications for Statistical Applications and Methods*, 32, 197-213, https://doi.org/10.29220/CSAM.2025.32.2.197.

4. **Jeon, Y.E.** and Seo, J.I. (2025). Predictive modeling based on a hybrid sampling strategy for an imbalanced heart failure dataset. *Journal of the Korean Data & Information Science Society*, 36(2), 359-366, https://doi.org/10.7465/jkdi.2025.36.2.359.

5. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. (2024). Enhancing the predictive performance of non-stationary time series data through various transformations. *Journal of the Korean Data & Information Science Society*, 35(1), 145-152, https://doi.org/10.7465/jkdi.2024.35.1.145.

6. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. (2024). Pivotal-based inference for a Pareto distribution under the adaptive progressive Type-II censoring scheme. *AIMS Mathematics*, 9(3), 6041-6059, 10.3934/math.2024295.

7. **Jeon, Y.E.**, Kim, Y., and Seo, J.I. (2024). Predictive analysis of doubly Type-II censored models. *AIMS Mathematics*, 9(10), 28508–28525, 10.3934/math.20241383.

8. **Jeon, Y.E.** and Seo, J.I. (2024). Objective Bayesian analysis using reparameterization for Type-II hybrid censored Rayleigh data. *Journal of the Korean Data & Information Science Society*, 35, 933-948, https://doi.org/10.7465/jkdi.2024.35.6.933.

9. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. (2023). Predictability model of the sea ice extent based on a machine learning technique. *Journal of the Korean Data & Information Science Society*, 34(2), 331-340, https://doi.org/10.7465/jkdi.2023.34.2.331.

10. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. (2023). Novel estimation based on a minimum distance under the progressive Type-II censoring scheme. *Communications for Statistical Applications and Methods*, 30(4), 411-421, https://doi.org/10.29220/CSAM.2023.30.4.411.

11. **Jeon, Y.E.**, Kang, S.B., Seo, J.I., and Song, J. J. (2022). Spatio-temporal modeling to reduce women's fear of crime. *Journal of the Korean Data & Information Science Society*, 33(2), 299-309, https://doi.org/10.7465/jkdi.2022.33.2.299.

12. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. (2022). Hybrid predictive modeling for charging demand prediction of electric vehicles. *Sustainability*, 14(9), 5426, https://doi.org/10.3390/su14095426.

13. **Jeon, Y.E.**, Kang S. B., and Seo, J.I. (2022). Spatio-temporal analysis with risk factors for five major violent crimes. *Korean Journal of Applied Statistics*, 35(5), 619-629, https://doi.org/10.5351/KJAS.2022.35.5.619.

14. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. (2022). Maximum product of spacings under a generalized Type-II progressive hybrid censoring scheme. *Communications for Statistical Applications and Methods*, 29(6), 665-677, https://doi.org/10.29220/CSAM.2022.29.6.665.

15. **Jeon, Y.E.** and Kang, S.B. (2021). Estimation of the Rayleigh distribution under unified hybrid censoring. *Austrian Journal of Statistics*, 50(1), 59-73, https://doi.org/10.17713/ajs.v50i1.990.

16. **Jeon, Y.E.** and Kang, S.B. (2020). Estimation of the exponentiated half-logistic distribution based on multiply Type-I hybrid censoring. *Communications for Statistical Applications and Methods*, 27(1), 47-64, https://doi.org/10.29220/CSAM.2020.27.1.047.

17. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. (2020). Forecasting the number of terrorism using ARIMA and dynamic linear models. *Korean Terrorism Studies Review*, 13, 102-114, https://www.kci.go.kr.

18. **Jeon, Y.E.** and Kang, S.B. (2020). Estimation for the half-logistic distribution based on multiply Type-II hybrid censoring. *Physica A: Statistical Mechanics and its Applications*, 550, 124501, https://doi.org/10.1016/j.physa.2020.124501.

19. **Jeon, Y.E.** and Kang, S.B. (2020). Bayesian estimation for the exponential distribution based on generalized multiply Type-II hybrid censoring. *Communications for Statistical Applications and Methods*, 27(4), 413-430, https://doi.org/10.29220/CSAM.2020.27.4.413.

20. Seo, J.I., **Jeon, Y.E.**, and Kang, S.B. (2020). New approach for a Weibull distribution under the progressive Type-II censoring scheme. *Mathematics*, 8(10), 1713, https://doi.org/10.3390/math8101713.

21. **Jeon, Y.E.** and Kang, S.B. (2018). Estimation for a half-triangular distribution based on unified hybrid censored sample. *Journal of the Korean Data & Information Science Society*, 29(6), 1697-1706, https://doi.org/10.7465/jkdi.2018.29.6.1697.

Submitted Papers

- **Jeon, Y.E.**, Kang, S.B., Seo, J.I., and Song, J. J. Inference based on the pivotal quantity and Monte Carlo simulation for spatial regression models.
- **Jeon, Y.E.**, Kim, Y., and Seo, J.I. Enhanced bagging-based framework for forecasting non-stationary time series: Bridging non-stationarity with a scaled logit transformation.
- **Jeon, Y.E.**, Ryu, S.H., Kim, Y., and Seo, J.I. A seasonality-aware generative framework for time series data: a VAE approach using Fourier terms.
- Seo, J.I., **Jeon, Y.E.**, Kim, Y. A hierarchical Bayesian framework for spatially varying coefficient models with copula-based dependence.

Presentations

1. **Jeon, Y.E.**, Ryu, S.H., and Seo, J.I. A novel approach for forecasting non-stationary time series: Utilization of a variational autoencoder reflecting seasonal patterns, *Bayes Comp 2025*, Singapore.
[Abstract] [Poster]

2. Ryu, S.H., **Jeon, Y.E.**, and Seo, J.I. VAE-based replication and ensemble methods for enhanced time series prediction, *2024 Korean Data & Information Science Society Fall Conference*, Daegu, Republic of Korea.
[Abstract] [Poster]

3. Lee, J., **Jeon, Y.E.**, and Seo, J.I. Enhancing predictive accuracy for a minority class in imbalanced data: An integrated approach with ROSE and Tomek link, *2024 Korean Statistical Society Winter Conference*, Daejeon, Republic of Korea.
[Abstract] [Poster]

4. **Jeon, Y.E.**, Kim, Y., and Seo, J.I. A bagging approach with a scaled logit transformation for improving predictive performance in non-stationary time series analysis, *2024 Korean Statistical Society Summer Conference*, Seoul, Republic of Korea.
[Abstract] [Poster]

5. Ryu, S.H., **Jeon, Y.E.**, and Seo, J.I. TED Talks' topic variation utilizing a dynamic topic modeling approach, *2024 Korean Statistical Society Summer Conference*, Seoul, Republic of Korea.
[Abstract] [Poster]

6. **Jeon, Y.E.**, Kang, S.B. Seo, J.I., and Song, J. J. Inference based on the pivotal quantity and Monte Carlo simulation for spatial regression models, *2023 Korean Statistical Society Winter Conference*, Seoul, Republic of Korea.
[Abstract] [Poster]

7. Ryu, S.H., **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. Prediction improvement of non-stationary time series analysis based on transformation, *2023 Korean Statistical Society Winter Conference*, Seoul, Republic of Korea.
[Abstract] [Poster]

8. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. Predictability model of the sea ice extent from machine learning, *2022 Korean Statistical Society Winter Conference*, Jeju, Republic of Korea.
[Abstract] [Poster]

9. **Jeon, Y.E.**, Kang, S.B., and Seo, J.I. Spatio-temporal analysis with risk factors for five major violent crimes, *2021 Korean Statistical Society Fall Conference*, Seoul, Republic of Korea.
[Abstract] [Poster]

10. **Jeon, Y.E.** and Kang, S.B. Estimation the half-logistic distribution based on multiply Type-II hybrid censoring, *2018 Korean Data & Information Science Society Fall Conference*, Seoul, Republic of Korea.
[Abstract] [Poster]

Projects

HTML Book

- Data Mining — *ML_book1*
- Machine Learning with Hyperparameter Tuning — *ML_book2*
- Time Series Analysis — *TS*

Blog — *my_blog*

Dashboard

- Earthquakes Information — *Earthquakes*
- Live Stocks Chart & Analysis — *Stock_Analysis*

App

- Machine Learning for Binary Classification — *MachineLearning_Ver2*
- Machine Learning for Multiclass Classification — *Multinomial*
- Data Visualization — *ggplot_Ver1*

Honors & Awards

Scholarship

- Cheonma Scholarship, Yeungnam University. *Mar 2018 - Feb 2021*
- Academic Excellence Scholarship, Yeungnam University. *Mar 2015 - Feb 2018*
- Local Talent Scholarship for Excellence from the Korea Student Aid Foundation *Mar 2014 - Feb 2015*

Awards

- 2024 Korean Data & Information Science Society Fall Conference, Excellence Prize. *Nov 2024*
- 2018 Korean Data & Information Science Society Fall Conference, Excellence Prize. *Nov 2018*

Grants

Title: *Predictive modeling for spatial data based on a geographical random forest integrated with copula and kriging* *Sep 2024 – Aug 2025*
Role: Principal investigator (Solo Research)
Gyeongkuk National University
Department of Data Science

- Selected by the National Research Foundation of Korea (Project Title: 2024 Next Generation Scholar Support Program, Domestic Postdoctoral Fellowship) to conduct independent research as the principal investigator.
- Developing a predictive model that captures both spatial heterogeneity and dependency by integrating copula-based clustering and kriging techniques with a geographical random forest.
- Leveraging extensive experience in machine learning and spatial data analysis to conduct the current research.

Title: *Ensemble model development for complex time series and spatial data analysis* *Jun 2024 – Present*
Role: Research Assistant
Gyeongkuk National University
Department of Data Science

- Selected by the National Research Foundation of Korea, serving as a research assistant responsible for verifying theoretical foundations, conducting data analysis, and coding.
- Developing an ensemble model to enhance predictive accuracy for time-series and spatial data with complex dependencies among data points, with a focus on proposing an advanced bootstrap technique.
- Addressing high-dimensional predictor issues by developing a spike-and-slab elastic net variable selection algorithm based on variable importance.

Skills

Languages: R, Python, SQL, SPSS, SAS, Latex, Quarto, Shiny App
Licensure or Certifications: Social Survey Analyst Level 2, SAS BASE