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Associate Professor of Statistics

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Web of Science Researcher ID: https://www.webofscience.com/wos/author/record/ITU-6541-2023

Education

Ph.D. in Statistics, Montana State University – Bozeman, USA, Jan 2013 - Jul 2015

Dissertation: Robust response surface designs against missing observations
https://scholarworks.montana.edu/xmlui/handle/1/9217

M.Sc. in Statistics, Montana State University – Bozeman, USA, Jan 2011 - Dec 2012

M.Sc. in Applied Statistics, National Institute of Development Administration, Thailand,
Apr 2006 - May 2008

B.Sc. in Statistics (First-class honors), Thammasat University, Thailand,
Jun 2002 - Feb 2006

Research Interest

Statistical Inference; Computational statistics and Simulations; Machine Learning & Data mining; Statistical modeling using R

Experience

Associate Professor, Apr 2022 – Present

Assistant Professor, Oct 2017 – March 2022

Lecturer, Sep 2008 – Dec 2010 and July 2015 – Sep 2017

Book

P. Srisuradetchai (2021). *Computational Statistics and Simulation Techniques with R*, 1st ed. Thammasat University Press, 588 pages. ISBN : 9786163147431

Companion Sites: https://sites.google.com/view/computational-statistics/home

Publications in International Journals

1. **Srisuradetchai,** P. (2026). Curvature-standardised Robust Score Estimation for the Gompertz Distribution. *Journal of Statistical Theory and Applications, 25, 20.* https://doi.org/10.1007/s44199-026-00173-y
2. **Srisuradetchai, P.**, & Kamlangdee, P. (2026). Time series forecast intervals using circular bootstrapped training simulation with invariant distance KNN. *International Journal of Applied Mathematics and Computer Science*, *36(1), 113–127*. https://doi.org/10.61822/amcs-2026-0009
3. **Srisuradetchai, P.** (2025). Posterior averaging with Gaussian naive Bayes and the R package RandomGaussianNB for big-data classification. *Frontiers in Big Data, 8, 1706417*. https://doi.org/10.3389/fdata.2025.1706417
4. Phatcharathada, B., & **Srisuradetchai, P.** (2025). Randomized feature and bootstrapped naive Bayes classification. *Applied System Innovation, 8(4), 94*. https://doi.org/10.3390/asi8040094

5. Sriprasert, S., & **Srisuradetchai, P.** (2025). Multi-K KNN regression with bootstrap aggregation: Accurate predictions and alternative prediction intervals. *Edelweiss Applied Science and Technology, 9(5)*, 2750–2764. https://doi.org/10.55214/25768484.v9i5.7589
6. Kummaraka, U., & **Srisuradetchai, P.** (2025). Monte Carlo Dropout Neural Networks for Forecasting Sinusoidal Time Series: Performance Evaluation and Uncertainty Quantification. *Applied Sciences*, *15*(8), 4363. https://doi.org/10.3390/app15084363
7. Kamlangdee, P., & **Srisuradetchai, P.** (2025). Circular bootstrap on residuals for interval forecasting in K-NN regression: A case study on durian exports. *Science & Technology Asia, 30*(1), 79–94. https://ph02.tci-thaijo.org/index.php/SciTechAsia/article/view/255306
8. **Srisuradetchai, P.**, Somsamai, J., & Phaphan, W. (2025). Modified likelihood approach for Wald-typed interval of the shape parameter in Weibull distribution. *AIMS Mathematics, 10*(1), 1–20. https://doi.org/10.3934/math.2025001
9. Kummaraka, U., & **Srisuradetchai, P.** (2024). Time-series interval forecasting with dual-output Monte Carlo dropout: A case study on durian exports. *Forecasting, 6*, 616–636. https://doi.org/10.3390/forecast6030033
10. **Srisuradetchai, P.**, & Suksrikran, K. (2024). Random kernel k-nearest neighbors regression. *Frontiers in Big Data, 7*, Article 1402384. https://doi.org/10.3389/fdata.2024.1402384
11. **Srisuradetchai, P.**, & Panichkitkosolkul, P. (2024). Confidence intervals for the parameter of the Juchez distribution and their applications. *Mathematics and Statistics, 12*(3), 256–269. https://doi.org/10.13189/ms.2024.120306
12. **Srisuradetchai, P.**, & Niyomdecha, A. (2024). Bayesian inference for the gamma zero-truncated Poisson distribution with an application to real data. *Symmetry, 16*(4), Article 417. https://doi.org/10.3390/sym16040417
13. **Srisuradetchai, P.**, & Phaphan, W. (2024). Using Monte-Carlo dropout in deep neural networks for interval forecasting of durian export. *WSEAS Transactions on Systems and Control, 19*, 10–21. https://doi.org/10.37394/23203.2024.19.2
14. Muchan, P., Kruthasoot, S., Kongton, T., Supap, T., Narku-Tetteh, J., Lisawadi, S., **Srisuradetchai, P.**, & Idem, R. (2024). Development of a predictive model to correlate the chemical structure of amines with their oxidative degradation rate in a post-combustion amine-based CO_2 capture process using multiple linear regression and machine learning regression approaches. *ACS Omega, 9*(6), 6669–6683. https://doi.org/10.1021/acsomega.3c07746
15. **Srisuradetchai, P.**, Niyomdecha, A., & Phaphan, W. (2024). Wald intervals via profile likelihood for the mean of the inverse Gaussian distribution. *Symmetry, 16*, Article 93. https://doi.org/10.3390/sym16010093
16. **Srisuradetchai, P.** (2024). A novel interval forecast for K-nearest neighbor time series: A case study of durian export in Thailand. *IEEE Access, 12*, 2032–2044. https://doi.org/10.1109/ACCESS.2023.3348078
17. **Srisuradetchai, P.**, & Phaphan, W. (2023). Bootstrap intervals for the mean of the weighted mixture generalized gamma distribution. *Lobachevskii Journal of Mathematics, 44*(11), 4865–4880. https://doi.org/10.1134/S1995080223110343
18. Kummaraka, U., & **Srisuradetchai, P.** (2023). Interval estimation of the dependence parameter in bivariate Clayton copulas. *Emerging Science Journal, 7*(5), 1478–1490. https://doi.org/10.28991/ESJ-2023-07-05-02
19. Niyomdecha, A., **Srisuradetchai, P.**, & Tulyanitikul, B. (2023). Gamma zero-truncated Poisson distribution with the minimum compounded function. *Thailand Statistician, 21*(4), 863–886. https://ph02.tci-thaijo.org/index.php/thaistat/article/view/251065
20. Lisawadi, S., Sripanich, A., & **Srisuradetchai, P.** (2023). Comparisons of penalized regression methods under high-dimensional sparse data with correlated variables. *Science & Technology Asia, 28*(2), 31–42. https://ph02.tci-thaijo.org/index.php/SciTechAsia/article/view/249855
21. Niyomdecha, A., & **Srisuradetchai, P.** (2023). Complementary gamma zero-truncated Poisson distribution and its application. *Mathematics, 11*(11), Article 2584. https://doi.org/10.3390/math11112584

22. **Srisuradetchai, P.**, & Dangsupa, K. (2023). On interval estimation of the geometric parameter in a zero-inflated geometric distribution. *Thailand Statistician, 21*(1), 93–109. https://ph02.tci-thaijo.org/index.php/thaistat/article/view/248025
23. Panichkitkosolkul, W., & **Srisuradetchai, P.** (2022). Bootstrap confidence intervals for the parameter of zero-truncated Poisson-Ishita distribution. *Thailand Statistician, 20*(4), 918–927. https://ph02.tci-thaijo.org/index.php/thaistat/article/view/247474/167925
24. **Srisuradetchai, P.**, & Tonprasongrat, K. (2022). On interval estimation of the Poisson parameter in a zero-inflated Poisson distribution. *Thailand Statistician, 20*(2), 357–371. https://ph02.tci-thaijo.org/index.php/thaistat/article/view/246346/167149
25. Sangpara, P., Borkowski, J. J., & **Srisuradetchai, P.** (2021). Using balanced incomplete block designs to generate new sampling designs. *Thailand Statistician, 19*(1), 126–140. https://ph02.tci-thaijo.org/index.php/thaistat/article/view/242819/164684
26. Yeesa, P., **Srisuradetchai, P.**, & Borkowski, J. J. (2020). A weighted D-optimality criterion for constructing model-robust designs in the presence of block effects. *Songklanakarin Journal of Science and Technology, 42*(6), 1259–1273. https://www.thaiscience.info/Journals/Article/SONG/10992873.pdf
27. **Srisuradetchai, P.**, & Junnumtuam, S. (2020). Wald confidence intervals for the parameter in a Bernoulli component of zero-inflated Poisson and zero-altered Poisson models with different link functions. *Science & Technology Asia, 25*(2), 1–14. https://ph02.tci-thaijo.org/index.php/SciTechAsia/article/view/175918
28. Choosawat, C., Reangsephet, O., **Srisuradetchai, P.**, & Lisawadi, S. (2020). Performance comparison of penalized regression methods in Poisson regression under high-dimensional sparse data with multicollinearity. *Thailand Statistician, 18*(3), 306–318. https://ph02.tci-thaijo.org/index.php/thaistat/article/view/241291
29. Mahachaichanakul, S., & **Srisuradetchai, P.** (2019). Applying the median and genetic algorithm to construct small optimal robust exact response surface designs against missing data. *Applied Science and Engineering Progress, 12*(1), 3–13. https://doi.org/10.14416/j.asep.2019.07.001
30. Yeesa, P., **Srisuradetchai, P.**, & Borkowski, J. J. (2019). Model-robust G-optimal designs in the presence of block effects. *Applied Science and Engineering Progress, 12*(3), 198–208. https://ph02.tci-thaijo.org/index.php/ijast/article/view/210904
31. Sung, S. H., **Srisuradetchai, P.**, & Volodin, A. (2011). A note on the exponential inequality for a class of dependent random variables. *Journal of the Korean Statistical Society, 40*(1), 109–114. https://doi.org/10.1016/j.jkss.2010.08.002

International Proceedings

1. Niyomdecha, A., Pansuwan, A., & **Srisuradetchai, P.** (2025). Robustness of Gaussian naïve Bayes to non-Gaussian and correlated features. In Proceedings of the 17th International Conference on Information Technology and Electrical Engineering (ICITEE 2025) (pp. 1–6). Bangkok, Thailand. https://doi.org/10.1109/ICITEE66631.2025.11338215
2. Pansuwan, A., **Srisuradetchai, P.**, & Sriprasert, S. (2025). Evaluating multi-K bootstrap KNN regression for clustered nonlinear data. In Proceedings of the 2025 Research, Invention, and Innovation Congress: Innovative Electricals and Electronics (RI2C 2025) (pp. 34–41). Bangkok, Thailand. https://doi.org/10.1109/RI2C67120.2025.11282836
3. **Srisuradetchai, P.** (2025). Entropy-regularized forward feature selection for Gaussian naïve Bayes. In Proceedings of the 23rd International Conference on ICT and Knowledge Engineering (ICT&KE 2025) (pp. 1–7). Bangkok, Thailand. https://doi.org/10.1109/ICTKE67052.2025.11274432
4. **Srisuradetchai, P.** (2024). Markov chain-based stock forecasting: A case study on ADVANC using moving averages. In 2024 Research, Invention, and Innovation Congress: Innovative Electricals and Electronics (RI2C) (pp. 112–117). IEEE. https://doi.org/10.1109/RI2C64012.2024.10784340

5. **Srisuradetchai, P.**, & Suksrikran, K. (2024). Enhanced kernel k-nearest neighbors regression with backward feature selection. In 2024 22nd International Conference on ICT and Knowledge Engineering (ICT&KE) (pp. 1–6). IEEE. https://doi.org/10.1109/ICTKE62841.2024.10787198
6. **Srisuradetchai, P.**, Lisawadi, S., & Thanakorn, P. (2024). Improved neural network predictions with correlation-based subset selection. In 2024 12th International Electrical Engineering Congress (iEECON) (pp. 1–6). IEEE. https://doi.org/10.1109/iEECON60677.2024.10537923
7. Tulyanitikul, B., Klompon, P., & **Srisuradetchai, P.** (2023). Efficient initialization of the correlation matrix in NORTA using quasi-Monte Carlo and updating techniques. In TENCON 2023 - 2023 IEEE Region 10 Conference (TENCON) (pp. 358–364). IEEE. https://ieeexplore.ieee.org/document/10322408
8. **Srisuradetchai, P.**, Panichkitkosolkul, W., & Phaphan, P. (2023). Combining machine learning models with ARIMA for COVID-19 epidemic in Thailand. In 2023 Research, Invention, and Innovation Congress: Innovative Electricals and Electronics (RI2C) (pp. 155–161). IEEE. https://ieeexplore.ieee.org/document/10356011
9. **Srisuradetchai, P.** (2023). Forecasting PTT and BCP stock prices in the Stock Exchange of Thailand: An application of ARIMA and ARIMAX models. In Proceedings of the 4th International Conference on Informatics, Agriculture, Management, Business Administration, Engineering, Sciences and Technology (pp. 160–165). King Mongkut's Institute of Technology Ladkrabang, Prince of Chumphon Campus. Retrieved from https://www.pcc.kmitl.ac.th/iambest/images/processding2023/Iambest2023_Vol3.pdf
10. Thanakorn, P., **Srisuradetchai, P.**, Lisawadi, S., Muchan, P., Narku-Tetteh, J., Supap, T., & Idem, R. (2022). Development of an artificial neural network based predictive foam model for amines used in carbon capture process. In Proceedings of the 16th Greenhouse Gas Control Technologies Conference (GHGT-16). SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4343091
11. **Srisuradetchai, P.**, & Panichkitkosolkul, W. (2022). Using ensemble machine learning methods to forecast particulate matter (PM2.5) in Bangkok, Thailand. In O. Surinta & K. Kam Fung Yuen (Eds.), Multi-disciplinary Trends in Artificial Intelligence: MIWAI 2022. Lecture Notes in Computer Science (Vol. 13651, pp. 231–243). Springer, Cham. https://doi.org/10.1007/978-3-031-20992-5_18
12. **Srisuradetchai, P.** (2019). Characteristics of hurdle and zero-inflated Poisson distributions and Wald's confidence intervals. In Proceedings of the 7th Burapha University International Conference on Interdisciplinary Research. Burapha University.

บทความวิจัยในฐาน TCI

1. **พัทธ์ชนก ศรีสุรเดชชัย** และโชติกา ราษีกุล. (2562). ประสิทธิภาพของช่วงความเชื่อมั่นสำหรับค่าเฉลี่ยของการแจกแจงปัวซงภายใต้ข้อมูลจากกระบวนการทำใหม่. วารสารวิชาการพระจอมเกล้าพระนครเหนือ, 29(4), หน้า 667-679. http://ojs.kmutnb.ac.th/index.php/kjournal/article/view/2145 [TCI 1]
2. โชติกา วุฒิสาร, รมิดา ศรีเหรา และ**พัทธ์ชนก ศรีสุรเดชชัย**. (2561). ช่วงความเชื่อมั่นสำหรับความแตกต่างของสองสัดส่วนโดยขั้นตอนวิธีการเลือกตัวอย่างแบบเลือกซ้ำที่สำคัญ. วารสารวิชาการพระจอมเกล้าพระนครเหนือ, 28(4), หน้า 859-868. http://ojs.kmutnb.ac.th/index.php/kjournal/ article /view/1502 [TCI 1]
3. **พัทธ์ชนก ศรีสุรเดชชัย**. (2560). สูตรอย่างง่ายสำหรับช่วงความเชื่อมั่นแบบภาวะน่าจะเป็นโปรไฟล์และแบบภาวะน่าจะเป็นโดยประมาณสำหรับค่าเฉลี่ยของการแจกแจงอินเวอร์สเกาส์เซียน. วารสารวิชาการพระจอมเกล้าพระนครเหนือ, 27(3), หน้า 467 – 479. http://ojs.kmutnb.ac.th/index.php/kjournal/article/view/942 [TCI 1]
4. **พัทธ์ชนก ศรีสุรเดชชัย**. (2560). ช่วงความเชื่อมั่นแบบภาวะน่าจะเป็นโปรไฟล์สำหรับค่าเฉลี่ยของการแจกแจงอินเวอร์สเกาส์เซียน. วารสารวิชาการพระจอมเกล้าพระนครเหนือ, 27(2), หน้า 339 – 350. http://ojs.kmutnb.ac.th/index.php/kjournal/article/view/941 [TCI 1]

5. **Srisuradetchai, P.**, & Trakultraipruk, N. (2559). Skillings-Mack Statistic: Computer-Intensive Methods. Journal of Applied Statistics and Information Technology, 1(2), 33–45. https://ph02.tci-thaijo.org/index.php/asit-journal/article/view/164759 [TCI 2]

R Package Maintainer

1. **Srisuradetchai, P.**, Skillings.Mack: The Skillings.Mack test statistic for block designs with missing observations. R package version 1.10 http://CRAN.R-project.org/package=Skillings.Mack, 2015.
2. **Srisuradetchai, P**. and Borkowski, J.J., VdgRsm, The R project for statistical computing http://www.r project.org/, 2014.

Certification & License

SAS Certified Base Programmer for SAS 9, Certificate Serial Number: BP039740v9

Recently classes taught

ST467 Introduction to Stochastics, Year 2020 – Present

ST647 Computational Statistics, Year 2018 – Present

ST657 Applied Data Mining, Year 2021 - Present

ST379 Data Mining and Business Intelligence, Year 2020 - 2023

ST823 Linear Models, Year 2019, 2020, 2021

ST866 Monte Carlo Methods, Year 2018, 2019

Fundings

1. Fast track 69: M-Estimator Approaches for Robust Parameter Inference and Confidence Interval Construction in the Gompertz Model (Contract number: TUFT0008/2569)
2. Fast track 68: Monte Carlo Dropout Neural Networks for Forecasting Sinusoidal Time Series: Performance Evaluation and Uncertainty Quantification (Contract number: TUFT0012/2568)
3. Fast track 67: Dual-Output Monte Carlo Dropout (MCDO) for interval forecasting in time series data (Contract number: TUFT 0073/2567)
4. Fast track 66: Bayesian Inference for Gamma Zero-Truncated Poisson Distribution and Its Application (Contract number: TUFT 71/2566)
5. Fast track 63: Development of Interval Estimations for Zero-inflated Counting Data (Contract number: TUFT 030/2563)
6. Research Unite 63: Thammasat University Research Unit in Theoretical and Computational Statistics