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EDUCATION

Ph.D., *Statistics*, The Ohio State University, August 2005.
 Thesis: *Generalization Error Rates for Margin-based Classifiers*.
 Adviser: Professor Xiaotong Shen.
 Area of Study: Statistical learning theory.

Ph.D. program, *Statistics*, Seoul National University, 1998 – 1999.

M.S., *Statistics*, Seoul National University, February 1996.
 Adviser: Professor Jongweoo Jeon.

B.S., Computer Science and Statistics, Seoul National University, February 1994.

POSITIONS

Professor, Department of Statistics, University of Seoul, 2017 –

Associate Professor, Department of Statistics, University of Seoul, 2012 – 2017.

Assistant Professor, Department of Statistics, University of Seoul, 2008 – 2012.

Research Assistant Professor, Institute of Statistics, Korea University, 2005 – 2008.
 Supervisor: Professor Ja-Yong Koo.
 Grant: Statistical Modeling of Complex Structured Data and its Applications (KRF-2005-070-C00020).

ADMINISTRATIVE
APPOINTMENTS

Director, Data Science Education Program for Next-Generation Convergence Talent, University of Seoul, 2022–

Deputy Director, Bigdata Convergence and Open Sharing System, University of Seoul, 2021–2022.

Chair, Department of Statistics, University of Seoul, 2021–2022.

Chair, School of Cross-disciplinary Studies, University of Seoul, March–August 2020.

Chair, School of Cross-disciplinary Studies, University of Seoul, 2016–2017.

Chair, Department of Statistics, University of Seoul, 2013–2014.

HONORS AND
AWARDS

Best Paper Award, Korean Data & Information Society, November 2019.

Excellent Research Award, University of Seoul, 2010.

Excellent Research Award, University of Seoul, 2009.

RESEARCH
GRANTS

University of Seoul 2022 Research Support Grant: Bahadur representation for the linear support vector machine in multiclass classifications. 5,000,000 (KRW), 12/1/22 - 11/31/23, PI.

National Research Foundation (NRF-2022M3J6A1084845): DS Plus: Data Science Education Program for Next-Generation Convergence Talent. 6,640,000,000 (KRW), 05/01/22 - 12/30/28, Co-PI of Data Science Education Consortium (with Korea University, Choongnam National University, Hoseo University).

University of Seoul 2022 Research Grant: Variable selection for nonlinear support vector machines via elastic net penalty. 7,000,000 (KRW), 5/1/22 - 4/30/23, PI.

National Research Foundation (NRF-2020R1F1A1A01048268): Development of Kernel Feature Selection Methods in Machine Learning. 156,774,000 (KRW), 06/01/20 - 02/28/23, PI.

2019 Sabbatical Year Research Grant of the University of Seoul: Comparison study of K -nearest neighborhood classification algorithms. 5,000,000 (KRW), 3/1/19 - 8/31/19, PI.

University of Seoul 2018 Research Grant: Negative binomial graphical model with excess zeros. 12,000,000 (KRW), 3/1/18 - 2/28/19, PI.

National Research Foundation (NRF-2015R1D1A1A01059984): Development of Methods for Big Data Analysis Based on Penalization. 140,283,000 (KRW), 11/01/15 - 10/31/18, PI.

2015 Sabbatical Year Research Grant of the University of Seoul: Zero-inflated Poisson graphical model for count data. 10,000,000 (KRW), 3/1/15 - 2/28/16, PI.

University of Seoul 2014 Research Fund: Categorical variable selection in Naïve Bayes Classification. 7,000,000 (KRW), 5/1/14 - 4/30/15, PI.

National Research Foundation (2012R1A1A2004901): Development of Penalized Model Selection Methods. 168,228,000 (KRW), 5/1/12 - 4/31/15, PI.

University of Seoul 2011 Research Fund: Cutpoint selection for credit scoring. 5,000,000 (KRW), 5/1/11 - 4/30/12, PI.

National Research Foundation (NRF-2009-0088009): Development of Statistical Learning Methods Based on Penalization. 290,106,000 (KRW), 9/1/09 - 8/31/12, PI.

Korea Research Foundation (KRF-2008-331-C00055): Classification and Regression Models for Statistical Learning and its Applications. 24,556,500 (KRW), 7/1/08 - 6/30/09, PI.

University of Seoul 2008 Research Fund: Variable Selection in Semi-Supervised Learning. 10,000,000 (KRW), 5/1/08 - 4/30/09, PI.

JOURNAL
PUBLICATIONS

An underlined name designates main/corresponding author.

- [1] Hwang, H., Choi, H. and Park, C. (2022). Variable selection for non-linear support vector machines via elastic net penalty. *Journal of the Korean Data & Information Science Society*. (In Korean)
- [2] Park, B.-J. and Park, C. (2022). Multicategory Laplacian support vector machines and their variable selection. Submitted to *Computational Statistics and Data Analysis*.
- [3] Kang, I., Park, C., Yoon, Y. J., Park, C., Kwon, S.-S., and Choi, H. (2021). Classification of histogram-valued data with support histogram machines. *Journal of Applied Statistics*. In Press.
- [4] Shin, J., and Park, C. (2021). FDR-based categorical variable selection in naïve Bayes classification. *Journal of the Korean Data & Information Science Society*. **32**(6), 1329-1341. (In Korean)
- [5] Park, B.-J. and Park, C. (2021). Kernel variable selection for multicategory support vector machines. *Journal of Multivariate Analysis*. **186**, Article 104800.
- [6] Park, B.-J., Choi, H., and Park, C. (2021). Negative binomial graphical model with excess zeros. *Statistical Analysis and Data Mining*. **14**, 449-465.
- [7] Bak, K.-Y., Kim, K.-R., Kim, P. T., Koo, J.-Y., Park, C., and Zhu, H. (2021). Nonparametric matrix regression function estimation over symmetric positive definite matrices. *Journal of the Korean Statistical Society*. **50**(3), 795-817.
- [8] Park, K., and Park, C. (2021). Comparison of nonlinear classification methods for image data. *Journal of the Korean Data & Information Science Society*. **32**(4), 767-780. (In Korean)
- [9] Jang, Y., Park, B.-J., and Park, C. (2019). Comparison study of K -nearest neighborhood classification algorithms. *Journal of the Korean Data & Information Science Society*. **30**(5), 977-985. (In Korean)
- [10] Choi, H., Poythress, J. C., Park, C., Jeon, J.-J., and Park, C. (2019). Regularized boxplot via convex clustering. *Journal of Statistical Computation and Simulation*. **89**:7, 1227-1247.
- [11] Park, B.-J. and Park, C. (2018). Comparison study of classification methods for image data. *Journal of the Korean Data & Information Science Society*. **29**, 267-276. (In Korean)

- [12] Choi, H., Gim, J., Won, S., Kim, Y. J., Kwon, S., and Park, C. (2017). Network analysis of count data with excess zeros. *BMC Genetics*, 18:93.
- [13] Gim, J., Kim, W., Kwak, S. H., Choi, H., Park, C., Park, K.S., Kwon, S., Park, T., and Won, S. (2017). Improving Disease Prediction by Incorporating Family Disease History in Risk Prediction Models with Large-Scale Genetic Data. *Genetics*. **207**(3), 1147–1155.
- [14] Choi, H., Kim, Y., Kwon, S., and Park, C. (2017). A robust support vector machine with labeling errors. *Communications in Statistics - Simulation and Computation*. **46**(8),6061–6073.
- [15] Choi, H. and Park, C. (2016). Shrinkage boxplot for outlier detection. *Journal of the Korean Data Analysis Society*. **18**(5), 2435–2443. (In Korean)
- [16] Choi, D., Choi, H., and Park, C. (2016). Classification of ratings in on-line reviews. *Journal of Korean Data & Information Science Society*. **27**(4), 845–854. (In Korean)
- [17] Won, S., Choi, H., Park, S., Lee, J., Park, C., and Kwon, S. (2015). Evaluation of penalized and non-penalized methods for disease prediction with large-scale genetic data. *BioMed Research International*. vol. 2015, Article ID 605891, 10 pages. doi:10.1155/2015/605891.
- [18] Choi, H., Koo, J.-Y., and Park, C. (2015). Fused lasso for credit scoring. *Journal of Statistical Computation and Simulation*. **85**(11), 2135–2147.
- [19] Kim, M.S., Choi, H., and Park, C. (2015). Categorical variable selection in Naïve Bayes Classification. *The Korean Journal of Applied Statistics*. **28**(3), 407–415. (In Korean)
- [20] Ahn, H. and Park, C. (2014). Comparison of model selection criteria in graphical LASSO. *Journal of the Korean Data & Information Science Society*. **25**(4), 881–891. (In Korean)
- [21] Choi, B.-J., Kim, K.-R., Cho, K.-D., Park, C., Koo, J.-Y. (2014). Variable Selection for Naive Bayes Semi-supervised Learning. *Communications in Statistics - Simulation and Computation*. **43**(10), 2702–2713.
- [22] Choi, H., Park, H., and Park, C. (2013). Support vector machines for big data analysis. *Journal of Korean Data & Information Science Society*. **24**(5), 989–998. (In Korean)
- [23] Kim, K. and Park, C. (2013). Comparison of feature selection methods in support vector machines. *The Korean Journal of Applied Statistics*. **26**(1), 131–139. (In Korean)
- [24] Koo, J.-Y., Park, K. W., Kim, B. W., Kim, K. R. and Park, C. (2013). Structured kernel quantile regression. *Journal of Statistical Computation and Simulation*. **83**(1), 179–190.

- [25] Kim, J., Sohn, I., Jung, S.-H., Kim, S., and Park, C. (2012). Analysis of survival data with group lasso. *Communications in Statistics - Simulation and Computation*. **41**(9), 1593–1605.
- [26] Park, C., Kim, K. R., Myung, R., and Koo, J.-Y. (2012). Oracle properties of SCAD-penalized support vector machine. *Journal of Statistical Planning and Inference*. **142**(8), 2257-2270.
- [27] Choi, H. and Park, C. (2012). Approximate penalization path for smoothly clipped absolute deviation. *Journal of Statistical Computation and Simulation*. **82**(5), 643–652.
- [28] Jin, S. K., Kim, K. R., and Park, C. (2012). Cutpoint selection via penalization in credit scoring. *The Korean Journal of Applied Statistics*, **25**(2), 261-267. (In Korean)
- [29] Yeo, J.-G., Park, C., and Koo, J.-Y. (2011). A comparison study of cutpoint selection methods in credit scoring. *Journal of the Korean Data Analysis Society*, **13**(6), 2915–2923. (In Korean)
- [30] Lee, S. J., Park, C., and Koo, J.-Y. (2011). Feature selection in the Laplacian Support Vector Machine. *Computational Statistics and Data Analysis*. **55**(1), 567-577.
- [31] Sohn, I., Kim, J., Jung, S.-H. and Park, C. (2009). Gradient Lasso for Cox Proportional Hazards Model. *Bioinformatics*, **25**(14), 1775–1781.
- [32] Park, C. (2009). Convergence Rates of Generalization Errors for Margin-based Classification. *Journal of Statistical Planning and Inference*. **139**(8), 2543–2551.
- [33] Koo, J., Park, C., Jhun, M. (2009). A Classification Spline Machine for Building a Credit Scorecard. *Journal of Statistical Computation and Simulation*, **79**(5), 681–689.
- [34] Ha, J. H. and Park, C. (2009). Variable Selection in Linear Discriminant Analysis. *Journal of the Korean Data Analysis Society*, **11**(1), 381–389. (In Korean)
- [35] Choi, B.-J., Chae, Y.-S., Choi, W.-Y., Park, C., and Koo, J.-Y. (2008). Mixture Discriminant Analysis for Semi-Supervised Learning. *The Korean Journal of Applied Statistics*, **21**(5), 825–833. (In Korean)
- [36] Koo, J.-Y., Lee, Y., Kim, Y. and Park, C. (2008). A Bahadur Representation for the Linear Support Vector Machine. *Journal of Machine Learning Research*, **9**, 1343–1368.
- [37] Kim, J.-M., Jung, Y.-S., Sungur, E. A., Han, K.-H., Park, C., and Sohn, I. (2008). A Copula Method for Modeling Directional Dependence of Genes. *BMC Bioinformatics*, **9**:225.
- [38] Park, C., Koo, J. -Y., Kim, P. T., and Lee, J. W. (2008). Stepwise Feature Selection Using the Generalized Logistic Loss. *Computational Statistics and Data Analysis*, **52**(7), 3709–3718.

- [39] Park, C., Koo, J. -Y., Kim, S., Sohn, I., and Lee, J. (2008). Classification of Gene Functions Using Support Vector Machine for Time-Course Gene Expression Data. *Computational Statistics and Data Analysis*, **52**(5), 2578–2587.
- [40] Park, C. (2007). When Can Support Vector Machines Achieve Fast Rates of Convergence? *Journal of Korean Statistical Society*, **36**(3), 367–372.
- [41] Lee, S. J., Park, C., Jhun, M. and Koo, J. -Y. (2007). Support Vector Machine Using K-Means Clustering. *Journal of Korean Statistical Society*, **36**(1), 175–182.
- [42] Song, S. H., Kim, K. H., Park, C., and Koo, J.-Y. (2007). Gene Selection Based on Support Vector Machine Using Bootstrap. *The Korean Journal of Applied Statistics*, **20**(3), 531–540. (In Korean)
- [43] Goel, P. K., McCord, M. R. and Park, C. (2005). Exploiting Correlations between Link Flows to Improve Estimation of Average Annual Daily Traffic on Coverage Count Segments: Methodology and Numerical Study. *Transportation Research Record: Journal of the Transportation Research Board*, No. 1917, 100–107.
- [44] Lee, S., Ahn, S., Park, C., and Jeon, J. (2002). Spatial-Temporal Modeling of Road Traffic Data in Seoul City. *Journal of Korean Data & Information Science Society*, **13**(2), 261–270.
- PROCEEDINGS [45] McCord, M. R., Goel, P. K., Jiang, Z., and Park, C. (2006). Improved AADT Estimation on Coverage Count Segments from Volume Correlations with Multiple ATR-Equipped Segments: Empirical Result from Ohio Highways. No. 06-1296, TRB 2006 Annual Meeting.
- [46] Ahn, S., Park, C. and Lee, J. (2000). Prediction of missing data using spatial model: Application to ITS. *Proceedings of the 7th World Congress on Intelligent Transport Systems*, Turin, Italy.
- BOOKS [47] Koo, J.-Y., Kim, K.-R., and Park, C. (2014). *Computational statistics in R*. Free Academy. ISBN 979-11-5808-049-5. (In Korean).
- [48] Park, C., Kim, Y., Kim, J., Song, J., and Choi, H. (2011). *Data mining with R*. Kyowoo Publisher. ISBN 978-89-8172-893-9. (In Korean).
- INVITED TALKS
- Comparison study of classification methods for image data, KDIS Autumn Conference, September 2019.
- Nonparametric regression, Department of Data Science, Suwon University, November 2017.
- Classification of multivariate functional data, Statistical Learning Research Group Workshop, July 2017.
- Support vector machine for multivariate functional data, Statistical Learning Research Group Workshop, January 2016.
- Zero inflated Poisson Graphical Model, Statistical Learning Research Group Workshop, January 2015.

Support vector machines for big data analysis, Joint Meeting of the IASC Satellite Conference for the 59th ISI WSC and the 8th Conference of the IASC-Asian Regional Section, August 2013.

Support vector machines for big data, KDISS Spring Conference, May 2013.

Coarse classification machine for credit scoring, KSS Spring Conference, May 2013.

Method of penalization for learning big data, KSS Autumn Conference, November 2012.

Feature Selection in Nonlinear Support Vector Machines, KSS Autumn Conference, November 2011.

Approximate penalization path for smoothly clipped absolute deviation, Department of Statistics, Seoul National University, June 2011.

Variable Selection in Penalized Support Vector Machines, KSS Spring Conference, May 2011.

Statistical Learning Theory for Support Vector Machines (Tutorial Lecture), KSS Spring Conference, May 2010.

Structured Laplacian Support Vector Machine, KSS Spring Conference, May 2008.

A Bahadur representation for the linear support vector machine

Department of Statistics, University of Seoul. January 2008.

Department of Statistics, Hankuk University of Foreign Studies. January 2008.

Variable Selection in Kernel Quantile Regression, Department of Statistics, University of Seoul, June 2007.

Structured Nonparametric Quantile Regression, Department of Statistics, Inha University. November 2006.

Classification of Time-Course Gene Expressions, Department of Statistics, University of Seoul, April 2006.

Statistical Learning Theory for General Margin Classifiers, WNAR/IMS, Fairbanks, AK, June 2005.

Generalization Error Rates for Margin-based Classifiers

SRCCS, Seoul National University, Seoul, September 2005.

Department of Mathematical Sciences, University of Cincinnati, OH, April 2005.

Lucent Bell Labs, NJ, February 2005.

Statistical and Applied Mathematical Sciences Institute, NC, February 2005.

CONTRIBUTED
TALKS

Support vector machines for learning big data, KDIS Spring Conference, May 2013.

Classification Spline Machine for Credit Scoring, KSS Spring Conference, May 2007.

Structured Nonparametric Quantile Regression, KSS Autumn Conference, November 2006.

Stepwise Feature Selection Using the Generalized Logistic Loss, KSS Spring Conference, May 2006.

PROFESSIONAL
ACTIVITIES AND
SERVICES

Memberships: *American Statistical Association (ASA)*, *Institute of Mathematical Statistics (IMS)*, *Korean Statistical Society (KSS)*, *Korean International Statistical Society (KISS)*, *Korean Data Analysis Society (KDAS)*.

Associate Editor for Journals:

Statistica Sinica, August 2020 – July 2023.

STAT, 2012 –.

Journal of Korean Data & Information Science Society, 2015 –.

Editorial board reviewer for *Journal of Machine Learning Research*, 2019 –.

Screener for Journals: *Journal of the Korea Statistical Society*, January - March, 2012.

Reviewer for Journals:

Statistics Journals: *The Korean Communications in Statistics*, *Journal of Korean Data & Information Science Society*, *Korean Journal of Applied Statistics*, *Journal of the Korean Statistical Society*, *Annals of the Institute of Statistical Mathematics*, *STAT*, *Journal of Statistical Computation and Simulation*, *Computational Statistics and Data Analysis*, *Journal of Computational and Graphical Statistics*, *Statistics and Its Interface*, *Statistical Analysis and Data Mining*, *Electronic Journal of Statistics*, *Statistics and Probability Letters*, *Journal of Multivariate Analysis*, *Journal of American Statistical Association*.

Bioinformatics Journals: *Quantitative Bio-Science*, *The Open Biotechnology Journal*, *BMC Bioinformatics*, *Bioinformatics*

Mathematics Journals: *Mathematical Reviews*.

Engineering Journals: *Journal of Machine Learning Research*, *Applied Intelligence*.

Management Journals: *Journal of the Korean Society for Quality Management*, *Intelligent Systems in Accounting, Finance and Management*.

Services:

Member of curriculum review committee, Convergence and Open Sharing System, University of Seoul, 2021–2022.

Member of steering committee, Convergence and Open Sharing System, University of Seoul, 2021–2022.

Program coordinator, Seoul Human Resources Academy, 2018–2022.
Admission officer, University of Seoul, 2017–2018.
Committee member of annual statistical programming competition, University of Seoul, 2012–.
Coordinator of actuarial science program, School of Cross-disciplinary Studies, University of Seoul, 2017.
Coordinator of big data analytics program, School of Cross-disciplinary Studies, University of Seoul, 2016–.
Accreditation Program Director, Department of Statistics, University of Seoul, 2013.
University Self Assessment Committee, University of Seoul, 2011–2013.
Evaluated proposals for National Research Foundation: 2011, 2014–2016.

Thesis Committees:

Ph.D. Student, Jeong Sook Shim; University of Seoul, 2014.
Ph.D. Student, Kyu Dong Cho; Korea University, 2013.
Ph.D. Student, Kwang Rae Kim; Korea University, 2010.
Ph.D. Student, Byeong Jung Choi; Korea University, 2008.

Student Advising:

Ph.D. Student, Jieun Shin; University of Seoul, 2025 (expected).
Ph.D. Student, Hyung Seok Ahn; University of Seoul, 2024 (expected).
Ph.D. Student, Beomjin Park; University of Seoul, 2022.
Thesis: *A study on variable selection and its applications in statistical learning.*
Area of Study: statistical learning.
Current Position: Assistant Professor, Department of Information and Statistics, Gyeongsang National University.
Ph.D. Student, Choong Han Lee; University of Seoul, 2021 (expected).
Master Student, Hoseok Hwang; University of Seoul, 2023 (expected).
Master Student, Kyuri Park; University of Seoul, 2021.
Master Student, A Young Shin; University of Seoul, 2019.
Master Student, Yong Suk Jang; University of Seoul, 2019.
Master Student, Yoon Hoe Kim; University of Seoul, 2018.
Master Student, Bum Jin Park; University of Seoul, 2018.
Master Student, Jae Yong Ryu; University of Seoul, 2017.
Master Student, Dongjun Choi; University of Seoul, 2016.
Master Student, Sung Tak Han; University of Seoul, 2016.
Master Student, Min Seon Kim; University of Seoul, 2015.
Master Student, Hyung Seok Ahn; University of Seoul, 2015.
Master Student, Su Jung Yang; University of Seoul, 2014.
Master Student, Hye Won Park; University of Seoul, 2014.
Master Student, Kwangsu Kim; University of Seoul, 2013.
Master Student, Jae Gu Yeo; University of Seoul, 2012.
Master Student, Seul Ki Jin; University of Seoul, 2012.
Master Student, Ki Chul Park; University of Seoul, 2012.
Master Student, Jae Whan Ha; University of Seoul, 2012.