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Education

Ph.D. Biostatistics, University of Pittsburgh, Pittsburgh, Apr 2015.

M.S. Statistics, Korea University, Seoul, Feb 2010.

B.A. Education, Korea University, Seoul, Feb 2007.

Experiences

Associate Professor, Department of Applied Statistics, Konkuk University, 2018 - Present.

Assistant Professor, Department of Statistics, Keimyung University, 2017 - 2018.

Publications

- [1] Kim J., Lee Y., Yang S. and **Kim S.*** (2024) Implementation of SoulBound Token Using Economical and Efficient Decentralized File Storage Methods, *Journal of The Korea Institute of Information Security & Cryptology*, *Corresponding author
- [2] Jeong H., Moon H., Lee Y., Yang S. and **Kim S.*** (2023) Automated Technology for Strawberry Size Measurement and Weight Prediction Using AI, *IEEE Access*, *Corresponding author.
- [3] Gwak H., Jeong Y., Kim C., Lee Y., Yang S. and **Kim S.*** (2023) A Multi-View Integrated Ensemble for the Background Discrimination of Semi-Supervised Semantic Segmentation, *Applied Science*, *Corresponding author.
- [4] Kwak H., Jeong Y., Kim C., Kwon H., Kwon H. and **Kim S.*** (2023) Ensemble Teacher: Semi-Supervised Semantic Segmentation with Teacher's Cross-Pseudo Supervision, *Quantitative Bio-Science*, *Corresponding author.
- [5] Heo S., Jung S., Kwak H., Jeong Y., Yang S., Lee Y. and **Kim S.*** (2023) Dental Image Data Generation for Instance Segmentation using Generative Adversarial Networks, *Quantitative Bio-Science*, *Corresponding author.
- [6] Jang Y., Zhao J., Kim K., Yu K., Kwon S. and **Kim S.*** (2023) New closed-form efficient estimator for multivariate gamma distribution, *Statistica Neerlandica*.
- [7] Ko K., **Kim S.*** and Kwon H (2023) Multi-targeted Audio Adversarial Example for Use against Speech Recognition Systems, *Computers & Security*, *Co-first author.

- [8] Kwon H. and **Kim S.*** (2023) Dual-Mode Method for Generating Adversarial Examples to Attack Deep Neural Networks, *IEEE Access*, *Corresponding author.
- [9] Kim Y., Kwak H., Oh J., Kang M., Kim J., Kwon H. and **Kim S.*** (2023) CloudNet: A LiDAR-based Face Anti-Spoofing model that is robust against light variation, *IEEE Access*, *Corresponding author.
- [10] Kwon H. and **Kim S.*** (2022) Restricted-Area Adversarial Example Attack for Image Captioning Model, *Wireless Communications and Mobile Computing*, *Corresponding author.
- [11] Kim S., Moon H., Oh J., Lee Y. Kwon H. and **Kim S.*** (2022) Automatic Size Measurement of Garments Using Vision Deep Learning Models and Point-Cloud Data, *Applied Science*, *Corresponding author.
- [12] Kwon H., Ko K. and **Kim S.*** (2022) Optimized Adversarial Example Without Pattern Vulnerability of Classification Score, *IEEE Access*, *Corresponding author.
- [13] Lee Y., Oh J., **Kim S.*** (2022) Integrated Analytic Methodology Using Visual Image and Meta-Data for Product Recommendation, *Quantitative Bio-Science*, *Corresponding author.
- [14] Oh J., Lingnan P., Yang S., Lee Y. and **Kim S.*** (2022) An Investment Model Based on a Head-And-Shoulder Pattern with Multiple Moving Average Technical Indicators for Future Markets, *Quantitative Bio-Science*, *Corresponding author.
- [15] Lee, I., Choi J., Kim K., Suh J., Kim J. and **Kim S.** (2022) Suicide attempts presenting to the emergency department before and during the COVID-19 pandemic: a comparative study, *Clinical and Experimental Emergency Medicine*.
- [16] Ko K., Gwak H., Lee E., Kim G., Moon D., Cho Y. and **Kim S.*** (2021) Action recognition models to monitor illegal dumping using zoom-in image sequence data, *Quantitative Bio-Science*, *Corresponding author.
- [17] Ko K., Kwak H., Thoummala N., Kwon H. and **Kim S.*** (2021) SqueezeFace: Integrative Face Recognition Methods with LiDAR Sensors, *Journal of Sensors*, *Corresponding author.
- [18] Lee H., Thoummala N., Park H., Ham S., Yu J., Hwang J., Heo S., **Kim S.*** (2021) AI-based Dental Prostheses Fabrication using Generative Adversarial Networks, *Quantitative Bio-Science*, *Corresponding author.
- [19] Park Y., Lee H., Shin J., Chon K., **Kim S.**, Cho K., Kim J. and Baek S. (2021) A machine learning approach for early warning of cyanobacterial bloom outbreaks in a freshwater reservoir, *Journal of Environmental Management*.
- [20] Han J., Cho K., Lim W. and **Kim S.*** (2021) Reinforcement learning guided by double replay memory, *Journal of Sensors*, *Corresponding author.
- [21] Park Y., **Kim S.**, Chon K., Lee H., Kim J. and Shin J. (2021) Impacts of heavy rain and floodwater on floating debris entering an artificial lake (Daecheong Reservoir, Korea) During the summer, *Desalination and Water Treatment*.

- [22] Suh S., Park Y., Ko K., Yang S., Ahn J., Shin J. and **Kim S.*** (2020) Weighted Mask R-CNN for Improving Adjacent Boundary Segmentation, *Journal of Sensors*, *Corresponding author.
- [23] **Kim S.**, Heo S., Yang S., Han J. and Jung S. (2020) Instance Segmentation Guided by Weight Map with an Application to Tooth Boundary Detection, *Quantitative Bio-Science*.
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- [25] Min J., Jung S., Jung S., Yang S. and **Kim S.*** (2020) Grammatical Error Correction Models for Korean Language via Pre-trained Denoising, *Quantitative Bio-Science*, *Corresponding author.
- [26] **Kim S.**, Jung S., Yang S., Han J., Lee B., Lee J. and Han S. (2019) Vision-based Deep Q-learning Network Models to Predict Particulate Matter Concentration Levels using Temporal Digital Image Data, *Journal of Sensors* (SCIE).
- [27] Lim J., Bang S., Kim J., Park C., Cho J. and **Kim S.*** (2019) Integrative deep learning for identifying differentially expressed(DE) biomarkers, *Computational and Mathematical Methods in Medicine* (SCIE), *Corresponding author.
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- [29] Lim J., Cho J., Kim J., Kim J. and **Kim S.*** (2019) Deeper Integrative Neural Network Analysis for Multi-level Omics Data, *Quantitative Bio-Science*, *Corresponding author.
- [30] Hwang U., Jeong J., Kim J., Cho S. and **Kim S.*** (2019) Computer Vision-based Method to Detect Fire Using Color Variation in Temporal Domain, *Quantitative Bio-Science*, * Corresponding author.
- [31] **Kim S.*** and Kim S. (2018) Vision-based Predictive Model on Particulates via Deep Learning, *Journal of Electrical Engineering & Technology* (SCIE) * Corresponding author.
- [32] Lee J., Jhong J., Cho Y., **Kim S.**, Koo J. (2018) Penalized log-density estimation using Legendre polynomials, *Communications in Statistics - Simulation and Computation* (SCIE).
- [33] Lee J., **Kim S.***, Jhong J. and Koo J. (2018) Variable Selection and Joint Estimation of Mean and Covariance Models with an Application to eQTL Data, *Computational and Mathematical Methods in Medicine* (SCIE), *Corresponding author.
- [34] **Kim S.**, Kang D. D., Park Y. and Tseng G. C. (2018) Meta-analytic Principal Component Analysis in Integrative Omics Application, *Bioinformatics* (SCI).
- [35] Ma T., Huo Z., Kuo A., Zhu L., Fang Z., Zeng X., Lin C., Liu S., Wang L., Rahman T., Chang L., **Kim S.** et al. (2018) MetaOmics: Analysis Pipeline and Browser-based Software Suite for Transcriptomic Meta-Analysis, *Bioinformatics* (SCI).

- [36] **Kim S.**, Jhong J., Lee J., Koo J-Y., Lee B. and Han S. (2017) Node-Structured Integrative Gaussian Graphical Models Guided by Pathway Information, *Computational and Mathematical Methods in Medicine* (SCIE).
- [37] **Kim S.**, Oesterreich S., Kim S., Park Y. and Tseng G. C. (2017) Integrative Clustering of Multi-level Omics Data for Disease Subtype Discovery Using Sequential Double Regularization, **Received the Distinguished Student Paper Award for ENAR 2015 and ASA Biometrics Section David P Byar Travel Award at JSM 2015**, *Biostatistics*, 18(1):165-179 (SCIE).
- [38] **Kim S.**, Lin C. and Tseng G. C. (2016) MetaKTSP: A Meta-Analytic Top Scoring Pair Method for Robust Cross-Study Validation of Omics Prediction Analysis, *Bioinformatics*, 32:1966-1973 (SCI).
- [39] **Kim S.**, Lee J., Jhong J. and Koo J-Y. (2017) Meta-analytic Support Vector Machine for Integrating Multiple Omics Data, *BioData Mining*, 10:2 (SCIE).
- [40] Han S.*, **Kim S.***, Seok J., Yoon J. and Zhong H. (2017) Estimation of Directed Subnetworks in Ultra High Dimensional Data for Gene Network Problem, *Statistics and Its Interface* (SCIE), *Joint first authors.
- [41] **Kim S.** (2016) Weighted K-means Support Vector Machine for Cancer Prediction, *SpringerPlus* (section in statistics), 5:1162 (SCIE).
- [42] **Kim S.**, Herazo-Maya J. D., Kang D. D., Juan-Guardela B. M., Tedrow J., Martinez F.J., Sciruba F.C., Tseng G.C. and Kaminski N. (2015) Integrative Phenotyping Framework (iPF): Integrative Clustering of Multiple Omics Data Identifies Novel Lung Disease Subphenotypes, *BMC Genomics*, 16:924 (SCIE).
- [43] Jhong J., Lee J., **Kim S.**, Koo J-Y. (2017) Joint Modeling for Mean Vector and Covariance Estimation with l1-Penalty, *Quantitative Bio-Science*.
- [44] Jung H., **Kim S.**, Lee J., Kim J., Han S. (2017) Differential network analysis for Triple positive and Triple negative breast cancer genes, *Journal of Breast Cancer* (SCIE).
- [45] Zhu L., Ding Y., Chen C., Huo Z., **Kim S.**, Oesterreich S. and Tseng G. C. (2016) MetaDCN: meta-analytic framework for differential coexpression network detection with an application to breast cancer, *Bioinformatics* (SCI).
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- [47] Herazo-Maya J. D.*, Noth I.*, Duncan S. R.*, **Kim S.**, Ma S., Tseng G. C., Feingold E., Juan-Guardela B. M., Richards T. J., Lussier. Y., Huang Y., Vij R., Lindell K. O., Xue J., Gibson K. F., Shapiro S. D., Garcia J. G., and Kaminski N. (2013) Peripheral Blood Mononuclear Cell Gene Expression Profiles Predict Poor Outcome in Idiopathic Pulmonary Fibrosis, *Science Translational Medicine*, 5, 205-136 (SCIE).
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methods in paired-end RNA-seq data, *Nucleic Acids Research*, 17 (SCI).

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[51] Suh Y., **Kim S.**, Kim S., Park J., Lim H., Park H., Choi H., Ng D., Lee M., and Nam M. (2013) Combined Genome-Wide Linkage and Association Analyses of Fasting Glucose Level in Healthy Twins and Families of Korea, *Journal of Korean Medical Science*, 28, 415-423 (SCI).

Book Chapter

[1] **Kim S.**, Huo Z., Park Y. and Tseng G. C. (2015) MetaOmics: Transcriptomic Meta-Analysis Methods for Biomarker Detection, Pathway Analysis and Other Exploratory Purposes pp. 39-67, Book chapter in Integrating omics data: statistical and computational methods. *Cambridge University Press*.

Honors, Awards & Fellowships

2022 Contribution to Research Award, Konkuk Univ, May, 2022.

2015 Best Student Presentation Awards, Graduate School of Public Health, University of Pittsburgh, Mar, 2015.

2015 Student of the Year, ASA Pittsburgh Chapter, Apr 2015.

ASA Biometrics Section David P Byar Travel Award, American Statistical Association (ASA), Aug 2015.

Title: "Integrative multi-omics clustering for disease subtype discovery by sparse overlapping group lasso and tight clustering".

Distinguished Student Paper Award for ENAR 2015, ENAR, Mar 2015.

Title: "Integrative multi-omics clustering for disease subtype discovery by sparse overlapping group lasso and tight clustering".

References

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~~~ Last updated: December 4, 2024~~~