Curriculum Vitae : Kyunga Kim

Associate Professor
Biomedical Statistics Center
Data Science Research Institute
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Adjunct Professor
Biomedical Data Science Lab
Department of Digital Health
SAIHST (Samsung Advanced Institute for Health Sciences & Technology)
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EDUCATION

Ph.D. in Statistics (2007) Purdue University, West Lafayette, IN.

M.S. in Mathematical Statistics (2001) Purdue University, West Lafayette, IN.

M.S. in Statistics (1994) Seoul National University (SNU), South Korea.

B.S. in Computer Science and Statistics (1992) SNU, South Korea.

EMPLOYMENT

Associate Professor (September 2018– Present)
Biomedical Statistics Center, Research Institute for Future Medicine, Samsung Medical Center.

Adjunct Professor (March 2016– Present)
Department of Digital Health, SAIHST, Sungkyunkwan University.

Director (April 2021– November 2021)
Biomedical Statistics Center, Research Institute for Future Medicine, Samsung Medical Center.

Director (April 2019– March 2021)
Statistics & Data Center, Research Institute for Future Medicine, Samsung Medical Center.

Assistant Professor (September 2014– August 2018)
Statistics & Data Center, Research Institute for Future Medicine, Samsung Medical Center.

Assistant Professor (March 2010– August 2014)
Department of Statistics, Sookmyung Women's University.

Postdoctoral Research Fellow (July 2007– February 2010)
Department of Statistics, SNU.

Limited-term Lecturer (September 2007– February 2010)
Department of Statistics & Interdisciplinary Program in Bioinformatics, SNU.

RESEARCH INTERESTS

- Biomedical Data Science; Biostatistics; Biomedical Statistics
- Statistical Modeling; Clinical Predictive Modeling
- Data Mining; Machine Learning; Digital Healthcare
- Big Data & Real World Data Analytics

SELECTIVE PUBLICATIONS

Main Author (*First author, **Corresponding author)

- Park, J., S. Lee, H. Park, J. Kim, C.-S. Ki, Y.L. Oh, J.H. Shin, J.S. Kim, S.W. Kim, J.H. Chung, **K. Kim****, T.H. Kim** (2021) Proposal of a New Prognostic Model for Differentiated Thyroid Cancer with TERT Promoter Mutations. *Cancers*, 13(12):2943 (SCI, IF: 6.126).

- Park*, D., S.J. Cho*, **K. Kim***, H. Woo, J.E. Kim, J.-Y. Lee, J. Koh, J. Lee, J.S. Choi, D.K. Chang, Y.-H. Choi, J.I. Chung, W.C. Cha, O.S. Jeong, S.Y. Jekal, M. Kang (2021) Prediction Algorithms for Blood Pressure Based on Pulse Wave Velocity Using Health Checkup Data in Korean Healthy Men. Online published at *JMIR Medical Informatics* (IF: 3.188).

- Lee, E.J., J. Jeon, K.W. Lee, H.Yoo, H.R. Jang, J.B. Park, J.E. Lee, **K. Kim****, W. Huh** (2020) The Combination of Area Under the Curve and Percentage Change in Estimated Glomerular Filtration Rate Predicts Long-term Outcome of Kidney Transplants. *American Journal of Transplantation*, 20(4):1056-1062 (IF: 7.163).

- Cho*, K., W. Sohn*, Y.C. Lee, S.A. Chi, J.-Y. Cho, **K. Kim****, Y.-H. Paik** (2020) Use of Cyclooxygenase Inhibitor and the Risk of Hepatocellular Carcinoma in Chronic Hepatitis B. *Journal of Viral Hepatitis*, 27(1):68-73 (IF: 4.237).

- Lee, S., S. Hong, W.C. Cha**, **K. Kim**** (2020) Predicting Adverse Outcomes for Febrile Patients in the Emergency Department Using Sparse Laboratory Data: Development of a Time Adaptive Model. *JMIR Medical Informatics*, 8(3):e16117 (IF: 3.188).

- Hong, S, S. Lee, J. Lee, W.C. Cha**, **K. Kim**** (2020) Prediction of Cardiac Arrest in the Emergency Department Based on Machine Learning and Sequential Characteristics: Model Development and Retrospective Clinical Validation Study. *JMIR Medical Informatics*, 8(8):e15932 (SCIE, IF: 3.188).

- Kim, T.J., E.R. Kim, S.N. Hong, Y.-H. Kim, Y.C. Lee, H.S. Kim, **K. Kim****, D.K. Chang** (2019) Effectiveness of Acid Suppressants and Other Mucoprotective Agents in Reducing the Risk of Occult Gastrointestinal Bleeding in Nonsteroidal Anti-Inflammatory Drug Users. *Scientific Reports*, 9(1):11696 (SCI, IF: 4.122).

- Soh, J.Y., S.-H. Jung, W.C. Cha, M. Kang, D.K. Chang, J. Jung, J.H. Lee, J.S. Choi, **K. Kim**** (2019) Variability in Doctors' Usage Paths of Mobile Electronic Health Records Across Specialties: Comprehensive Analysis of Log Data. *JMIR mHealth and uHealth*, 7(1):e12041 (SCIE, IF: 4.541).

- Woo*, H.-K., **K. Kim***, K. Cha, J.-Y. Lee, H. Mun, S.J. Cho, J.I. Chung, K.C. Lee, M. Kang (2019) Application of Efficient Data Cleaning Using Text Clustering for Semistructured Medical Reports to Large-Scale Stool Examination Reports: Methodology Study. *Journal of Medical Internet Research*, 21(1)e10013 (SCI, IF: 4.671)

- Kim, H.I.*, **K. Kim***, S.Y. Park, J.-H. Choe, J.-H. Kim, J.S. Kim, Y.L. Oh, S.Y. Hahn, J.H. Shin, H.S. Ahn, S.W. Kim, T.H. Kim, J.H. Chung (2018) Refining the Eighth Edition AJCC TNM Classification and Prognostic Groups for Papillary Thyroid Cancer with Lateral Nodal Metastasis. *Oral Oncology*, 78:80-86 (SCI, IF: 4.636).

- Goo, J., **K. Kim** (2014) Text Mining for Korean: Characteristics and Application to 2011 Korean Economic Census Data. *The Korean Journal of Applied Statistics*, 27(7):131-141.

- **Kim, K.**, M. Kwon, S. Oh, T. Park (2013) Identification of Multiple Gene-Gene Interactions for Ordinal Phenotypes. *BMC Medical Genomics,* 6(suppl 2):S9 (SCIE, IF: 3.914).

SELECTIVE PUBLICATIONS (CONT.)

Main Author (*First author, **Corresponding author)

- Lee*, E., **K. Kim***, and T. Park (2011) Genome-wide Search of Genetic Modulators in Gene Regulatory Pathways: Weighted Window-based Peak Identification Algorithm. *Genomics,* 97(6):386-393 (SCI, IF: 3.019).

- Cho*, S., **K. Kim***, Y. J. Kim, J.-K. Lee, Y. S. Cho, J.-Y. Lee, B.-G. Han, H. Kim, J. Ott, T. Park (2010) Joint Identification of Multiple Genetic Variants via Elastic-net Variable Selection in a Genome-Wide Association Analysis. *Annals of Human Genetics,* 74(5):416-428 (SCI, IF: 2.604).

- Namkung*, J., **K. Kim***, S-G. Yi, W. Chung, M. Kwon, T. Park (2009) New Evaluation Measures for Multifactor Dimensionality Reduction Classifiers in Gene-Gene Interaction Analysis. *Bioinformatics*, 25(3):338-345 (IF: 4.926).

- **Kim, K**. and W. Hwang (2008) Meta-analysis of Usability Experimental Research Using New Bi-clustering Algorithm. *The Korean Journal of Applied Statistics,* 21(6): 1007-1014.

Co-Author in Collaborative Research on Clinical Predictive Modeling

- Yoon, H.G., et al. (2021) Machine Learning Model for Predicting Excessive Muscle Loss During Neoadjuvant Chemoradiotherapy in Oesophageal Cancer. Accepted at *Journal of Cachexia, Sarcopenia, and Muscle* (SCI, IF: 9.802).

- Park*, J. & S. Lee*, et al. (2021) TERT Promoter Mutations and the Eighth Edition TNM Classification in Predicting the Survival of Thyroid Cancer Patients. *Cancers*, 13(4):648 (IF: 6.639).

- Rhu, J., et al. (2019) Development of a Novel Linear Model for Predicting Recipient's Post-Transplant Serum Creatinine Level after Living Donor Kidney Transplantation: a Multicenter Cross-Validation Study. *PLoS One*, 14(4): e0214247 (IF: 2.766).

- Park, S.Y., et al. (2018) Clinical Validation of the Prognostic Stage Groups of the Eighth Edition TNM Staging for Medullary Thyroid Carcinoma. *Journal of Clinical Endocrinology & Metabolism*, 103(12):4609-4616 (IF: 5.789).

- Pyo, J.H., et al. (2017) Measurement of Tumor Volume is Not Superior to Diameter for Prediction of Lymph Node Metastasis in Early Gastric Cancer with Minute Submucosal Invasion. *Oncotarget*, 8(69):113758-113765 (IF: 5.168).

- Kim, T.H., et al. (2017) Refining Dynamic Risk Stratification and Prognostic Groups for Differentiated Thyroid Cancer with TERT Promoter Mutations. *Journal of Clinical Endocrinology & Metabolisom,* 102(5):1757-1764 (IF: 5.455).

- Kim, T.J., et al. (2017) One-dimensional and 2-dimensional Tumor Size Measurement for Prediction of Lymph Node Metastasis in Differentiated Early Gastric Cancer with Minute Submucosal Invasion. *Gastrointestinal Endoscopy*, 85(4):730-736 (IF: 6.501).

SELECTIVE PUBLICATIONS (CONT.)

Co-Author in Collaborative Research on Big Data (Health-checkup, Health insurance claim, Omics, etc.)

- **Park*, Y**., D.H. Sinn*, et al. (2021) The Association between Breastfeeding and Non-Alcoholic Fatty Liver Disease in Parous Women: a Nationwide Cohort Study. Accepted at *Hepatology* (SCI, IF: 14.679).

- Lee*, G.-I., S.A. Chi*, et al. (2021) Visual Impairment Increases the Risk of Dementia, Especially in Young Males: A 12-Year Longitudinal Follow-Up Study of a National Cohort. *Scientific Reports*, 11(1):11393 (SCI, IF: 4.122).

- Ahn, J., et al. (2021) Mean and Visit-to-Visit Variability of Glycemia and Left Ventricular Diastolic Dysfunction: A Longitudinal Analysis of 3,025 Adults with Serial Echocardiography. *Metabolism,* 116:154451 (IF: 6.360).

- Song*, B.G. & Y.C. Lee*, et al. (2020) Risk of Domperidone Induced Severe Ventricular Arrhythmia. *Scientific Reports*, 10(1):12158 (IF: 4.120).

- Min, Y., et al. (2020) Proton Pump Inhibitor Use is Associated with Hip Fracture Development: A Nationwide Population-Based Cohort Study. *Korea Journal of Internal Medicine* 35(5):1084-1093. (IF: 2.131).

- Kim, T.J., et al. (2019) Metabolically Healthy Obesity and the Risk of Erosive Esophagitis: A Cohort Study. *Clinical and Translational Gastroenterology,* 10(9):e00077 (IF: 4.621).

- Pyo, J.H., et al. (2019) Obesity and Risk of Peptic Ulcer Disease: A Large-scale Health Check-Up Cohort Study. *Nutrients,* 11(6):e1288 (IF: 4.171).

- Kwak, S.H., et al. (2018) Nonsynonymous Variants in PAX4 and GLP1R Are Associated with Type 2 Diabetes in an East Asian Population. *Diabetes*, 67(9): 1892-1902 (IF: 8.684).

- Kho, M., et al. (2013) Genetic and environmental influences on Salt Intake Using Half-Day Urine Samples: The Healthy Twin Study. *American Journal of Clinical Nutrition*, 98(6):1410-1416 (IF: 6.918).

- Kwak, S. H., et al. (2013) Prediction of Type 2 Diabetes in Women with a History of Gestational Diabetes Using a Genetic Risk Score. *Diabetologia*, 56(12):2556-2563 (IF: 6.880).

- Dastani, Z. et al. (2012) Novel Loci for Adiponectin Levels and Their Influence on Type 2 Diabetes and Metabolic Traits: A Multi-Ethnic Meta-Analysis of 45,891 Individuals. *PLoS Genetics*, 8(3):e1002707 (IF: 8.517).

- Kim, K.R., et al. (2012) Interactions of Single Nucleotide Polymorphisms with Dietary Calcium Intake on the Risk of Metabolic Syndrome. *American Journal of Clinical Nutrition*, 95(1):231-240 (IF: 6.504).

- Teslovich et al. (2010) Biological, Clinical, and Population Relevance of 95 Loci for Blood Lipids. *Nature,* 466:707-713 (IF: 36.101).

- van Leeuwen, H., et al. (2007) Natural Variation among *Arabidopsis thaliana* Accessions for Transcriptome Response to Exogenous Salicylic Acid. *Plant Cell,* 19:2099-2110 (IF: 9.296).

SELECTIVE PUBLICATIONS (CONT.)

Co-Author in Collaborative Research on AI, Machine Learning, Digital Healthcare

- Yoon, H.G., et al. (2020) Multi-Parametric Deep Learning Model for Prediction of Overall Survival after Postoperative Concurrent Chemoradiotherapy in Glioblastoma Patients. *Cancers*, 12(8):2284 (IF: 6.126).

- Lee, J.H., et al. (2020) Deep Learning with Ultrasonography: Automated Classification of Liver Fibrosis using Convolutional Neural Networks. *European Radiology*, 30(2):1264-1273 (IF: 4.027).

- Cho, Y.S., et al. (2020) Automated Measurement of Hydrops Ratio from MR Images in the Patients with Ménière's Disease Using CNN-based Segmentation. *Scientific Reports*, 10(1):7003 (IF: 4.122).

- Jung, K.Y., et al. (2020) Frequent Mobile Electronic Medical Records (EMR) Users Respond More Quickly to Emergency Department Consultation Requests. *JMIR mHealth and uHealth*, 8(2):e14487 (IF: 4.541).

- Goo, J. & K. Kim (2014) Text Mining for Korean: Characteristics and Application to 2011 Korean Economic Census Data. *The Korean Journal of Applied Statistics*, 27(7):131-141.

Co-Author in Other Collaborative Clinical Research

- Kang, T.W., et al. (2021) Comparison of Super-Resolution Ultrasound and Contrast-Enhanced Ultrasound for Detection of Spoke-Wheel Sign in Patients with Focal Nodular Hyperplasia. *Radiology*, 298(1):82-90 (IF: 7.931)

- Lee, S., et al. (2021) Effect of Microvascular Invasion Risk on Early Recurrence of Hepatocellular Carcinoma after Curative Treatments. *Annals of Surgery*, 273(3):564-571 (IF: 9.203).

- Yu, J.I., et al. (2020) Outcomes of Radiotherapy for Mesenchymal and Non-Mesenchymal Subtypes of Gastric Cancer. *Cancers*, 12(4):943 (IF: 6.162).

- Choi, S., et al. (2020) C3d-Positive Preformed DSAs Tend to Persist and Result in a Higher Risk of AMR after Kidney Transplants. *Journal of Clinical Medicine*, 9(2):375-391 (IF: 5.688).

- Kim, S.J., et al. (2020) Outcome Comparison Between Low-dose Rabbit Anti-Thymocyte Globulin and Basiliximab in Low-risk Living Donor Kidney Transplantation. *Journal of Clinical Medicine*, 9(5):1320 (IF: 5.688).

- Kim*, Y., C.H. Kim*, H.Y. Lee*, S.H. Lee*, et al. (2019) Comprehensive Clinical and Genetic Characterization of Hyperprogression Based on Volumetry in Advanced Non-Small Cell Lung Cancer Treated With Immune Checkpoint Inhibitor. *Journal of Thoracic Oncology*, 14(9):1608-1618 (IF: 12.460).

- Kim, H.I., et al. (2019) Impact of Extranodal Extension on Risk Stratification in Papillary Thyroid Carcinoma. *Thyroid*, 29(7):963-970 (IF: 7.786).

- Lee, S., et al. (2018) Radiofrequency Ablation vs. Surgery of Perivascular Hepatocellular Carcinoma: Propensity Score Analyses of Long-Term Outcomes. *Journal of Hepatology*, 69(1):70-78 (IF: 12.486)

SELECTIVE PUBLICATIONS (CONT.)

Co-Author in Other Collaborative Clinical Research

- Kang, B., et al. (2018) Subtherapeutic Infliximab Trough Levels and Complete Mucosal Healing are Associated with Sustained Clinical Remission after Infliximab Cessation in Pediatric-onset Crohn's Disease Patients under Combined Immunosuppression. *Journal of Crohn's and Colitis*, 12(6):644-652 (IF: 6.637).

- Kang, B., et al. (2016) Mucosal Healing in Pediatric Patients with Moderate-to-Severe Luminal Crohn's Disease Under Combined Immunosuppression: Escalation versus Early Treatment. *Journal of Crohn's and Colitis*, 10(11):1279-1286 (IF: 5.813).

- Kim, T.H., et al. (2016) TERT Promoter Mutations and Long-term Survival in Patients with Thyroid Cancer. *Endocrine-Related Cancer,* 23(10):813-823 (IF: 5.267).

- Sinn, D.H., et al. (2015) Hepatocellular Carcinoma Risk in Chronic Hepatitis B-Infected Compensated Cirrhosis Patients with Low Viral Load. *Hepatology*, 62(3):694-701 (IF: 11.711).

Co-Author in Other Collaborative Non-Clinical Research

- Hur, Y.-S., et al. (2015) Arabidopsis Thaliana Homeobox 12 (ATHB12), a Homeodomain-Leucine Zipper Protein, Regulates Leaf Growth by Promoting Cell Expansion and Endoreduplication. *New Phytologist*, 205(1):316-328 (IF: 7.210).

- He*, N. & Kim*, N., et al. (2014) Integrated Analysis of Transcriptomes of Cancer Cell Lines and Patient Samples Reveals STK11/LKB1-Driven Regulation of cAMP Phosphodiesterase (PDE4D). *Molecular Cancer Therapeutics*, 13(10):2463-2473 (IF: 5.683).

- Won, J.-H., et al. (2014) Monotone False Discovery Rate. *Statistics & Probability Letters*, 87(1):86-93 (IF: 0.540).

- Kim, Y.-K., et al. (2013) Functional Implication of β-Carotene Hydroxylases in Soybean Nodulation. *Plant Physiology*, 162(3):1420-1433 (IF: 7.394).

- Yu, D., et al. (2012) Permutation Test for Incomplete Paired Data with Application to CDNA Microarray Data. *Computational Statistics and Data Analysis,* 56(3):510-521 (IF: 1.304).

- Lim, J., et al. (2012) Detection of Differentially Expressed Gene Sets in a Partially Paired Microarray Data Set. *Statistical Applications in Genetics and Molecular Biology,* 11(3):5 (IF: 1.717).

- Li, E., et al. (2012) Distribution-free Tests of Mean Vectors and Covariance Matrices for Multivariate Paired Data. *Metrika*, 75(6):833-854 (SCIE, IF: 0.724).

SELECTIVE RESEARCH PROJECTS

Principal Investigator

- A Study on Nonparametric Propensity Score Methods in Unbalance Multiple-Treatment Groups (Jun. 2021 – Feb. 2023)
    - National Research Foundation of Korea (No. 2021R1F1A105480611, PI: <u>Kyunga Kim</u>)
    - Developing statistical methodologies for PS matching for multiple-treatment groups

- Development and Implementation of CDM, FHIR and AI-based Precision Medicine Platform to Improve National Medical Quality and Safety for Emergency and Critical Patients (Apr. 2019 – Nov. 2021)
    - Ministry of Health and Welfare (PI: Won Chul Cha @ Samsung Medical Center)
    - Part II. Conducting qualitative research for hospital quality indicators and developing a management dashboard program (PI: <u>Kyunga Kim</u>)

- Development and Validation of Prediction Modeling in Big Data with Missing Values (Jun. 2018– Nov. 2020)
    - National Research Foundation of Korea (No. 2018R1D1A1B0704842313, PI: <u>Kyunga Kim</u>)
    - Developing statistical methodologies for prediction modeling with high-dimensionality & missing data

- Development and Supports for Improving Bioinformatics Analytic Skills of Research Workforce and Enhancing Excellence in Genome Research (Aug. 2013 – Mar. 2014)
    - The National Project for Personalized Genomics Medicine (PI: <u>Kyunga Kim</u>)
    - Developing and operating bioinformatics educational programs for R and Python languages

- Hands-on Training on Advanced Bioinformatics Analysis and Research Workforce Development for Excellence in Genome Research (Nov. 2012 – Mar. 2013)
    - The National Project for Personalized Genomics Medicine (PI: <u>Kyunga Kim</u>)
    - Developing and operating bioinformatics educational programs for NGS (next generation sequencing) data analysis

Collaborating Researcher

- The Effect of CRT Upgrade to Overall Survival in Pacing-Associated Heart Failure Patients (Aug. 2020 – Jan. 2021)
    - Samsung Medical Center (PI: Seungjeong Park @ Samsung Medical Center)
    - Design and analyses of The Korea National Health Insurance Claim Data

- Clinical Performance Study of Breast Cancer Prognostic Diagnostics GenesWell™ BCT in Korean Patients with Hormone Receptor-positive, Human Epidermal Growth Factor Receptor 2-negative Early Breast Cancer (Dec. 2017 – Feb. 2020)
    - Ministry of Health and Welfare (PI: Jeong Eon Lee @ Samsung Medical Center)
    - Survival analysis and investigation on distribution of high & low risk group and clinical pathologic characteristics according to the GenesWell™ BCT values.

- Effect of UDCA on Hypoglycemic and Abnormality of Lipid Profile in Patients with Type 2 Diabetes (Jan. 2019 – Nov. 2019)
    - Daewoong Pharmaceutical Corporation (PI: Tae Jun Kim @ Samsung Medical Center)
    - Identification of UDCA effect on mortality via statistical models and visualization

SELECTIVE RESEARCH PROJECTS (CONT.)

Collaborating Researcher

- Development of High Performance Multiplex Diagnostic Technique and Its Clinical Validation for Genomic Biomarkers in Lung Cancer (Jul. 2016−Apr. 2019)
    - o Korea Ministry of Health & Welfare (PI: Myung-Ju Ahn @ Samsung Medical Center)
    - o Evaluating performance of multi-diagnostic technology compared with existing tools

- Estimation of Usual Intake with Consideration of Within-Person Variance (Feb. 2017– Nov. 2018)
    - o Ministry of Food and Drug Safety (PI: Jung Eun Lee @ Department of Food & Nutrition, Seoul National University)
    - o Developing statistical models and methodologies for estimating usual intake

- Development of Type 2 Diabetes Prediction Model using Rare and Functional Genetic Variants (Jun. 2012 – Mar. 2015)
    - o The National Project for Personalized Genomics Medicine (PI: Kyong Soo. Park @ College of Medicine, Seoul National University)
    - o Developing statistical methods for analysis of family data from next-generation sequencing technology

- Quantitative Standard Establishment and Risk Assessment of Foodborne Pathogens on Cheese (Apr. 2012 – Dec. 2013)
    - o Animal, Plant and Fisheries Quarantine and Inspection Agency (PI: Yohan Yoon @ Sookmyung Women's University)
    - o Developing statistical models and methodologies for quantitative risk assessment

- Discrimination Method Development of Oriental Medicine Using Plant Metabolomics Technology (Aug. 2010 – Jul. 2011)
    - o Korea Ministry of Health & Welfare (PI: Youngbae Suh @ College of Korean Medicine, Daejeon University)

- Consortium for Large Scale Genome Wide Association Study II (Dec. 2009 – Jul. 2010)
    - o Korea National Institute of Health (PI: Berm-Seok Oh @ College of Medicine, Kyunghee University)
    - o Bioinformatics and statistical methodologies for GWAS

- Developing and Disseminating Family-Based Analysis Methods Optimized for Genome-Wide High Density SNPs (Oct. 2009 – Jul. 2010)
    - o Korea National Institute of Health (PI: Joo-Hon Sung @ Graduate School of Public Health, Seoul National University)
    - o Bioinformatics and statistical methodologies for family-based GWAS

- SNP Genotype Calling Algorithm Development (Jan. 2009 – Jun. 2009)
    - o Samsung Advanced Institute of Technology (PI: Taesung Park @ Department of Statistics, Seoul National University)
    - o Quality control techniques and genotype calling methods for SNP arrays

- Consortium for Large Scale Genome Wide Association Study I (Aug. 2008 – Jun. 2009)
    - o Korea National Institute of Health (PI: Taesung Park @ Department of Statistics, Seoul National University)
    - o Bioinformatics and visualization methodologies for GWAS

ADVISEES

Current Advisees

- Integrated PhD Program in Department of Health Sciences and Technology, SAIHST, Sungkyunkwan University
    o Sang-Ah Chi (2015.3~) PhD Candidate
        – (Tentative Thesis Title) Prediction Modeling in Big Data with Missing values
        – Estimation of usual intake using The Korea National Health and Nutrition Examination Survey (KNHANES) data
        – Design and analyses of The Korea National Health Insurance Claim Data

- PhD Program in Department of Digital Health, SAIHST, Sungkyunkwan University
    o Jip Min Jung, MS (2016.9~)
        – Currently working @ National Cancer Center, South Korea
    o Sungjun Hong, MS (2018.3~)
        – Prediction modeling via machine learning algorithms for clinical decision support system (CDSS) - application to vital monitoring in emergency department
        – Dashboard development for medical quality management using common data model (CDM)
        – Propensity-score matching algorithm for multiple groups
        – Design and analyses of The Korea National Health Insurance Claim Data
    o Yewan Park, MD (2020.3~)
        – Currently working as a Clinical Assistant Professor @ KyungHee University Medical Center
        – Risk factor analyses of hepatic diseases using KNHANES data
    o Soyung An, MS (2021.3~)
        – Currently working @ OSONG Medical Innovation Foundation

- Integrated PhD Program in Department of Digital Health, SAIHST, Sungkyunkwan University
    o Sungjoo Lee (2017.9~)
        – Prediction modeling via machine learning algorithms for CDSS - application to lab order patterns in emergency department
        – Causal inference in retrospective observational studies
        – Dashboard development for medical quality management using CDM
        – Design and analyses of The Korea National Health Insurance Claim Data

- MS Program in Department of Digital Health, SAIHST, Sungkyunkwan University
    o Sungsoo Hong (2021.3~)
        – Dashboard development for medical quality management using common data model (CDM)

Former Advisees

- MS Program in Department of Digital Health, SAIHST, Sungkyunkwan University
    o Sujin Kim, MS (2018.3~2020.2), Joint Advising with Professor Won Chul Cha
        – (Thesis Title) Clinical Work Process Efficiency with Integration of Using Mobile EMR – The Efficiency of Mobile EMR Usage in Specialty Consultant Process in Emergency Department
        – Currently working a Researcher @ Smart Health Lab, Samsung Medical Center

ADVISEES (CONT.)

Former Advisees

- MS Program in Department of Digital Health, SAIHST, Sungkyunkwan University
  - Jonghyuk Kim, MS (2019.9~2021.8), Joint Advising with Professor Sang Won Seo
    - (Tentative Thesis Title) Comprehensive Study on Association between Body Mass Index and Amyloid PET Positivity in Patients with Amnestic Mild Cognitive Impairment, Alzheimer's disease dementia using Longitudinal Big Data
    - Prediction modeling via interpretable machine learning algorithms for CDSS - application to amyloid positivity from PET image for dementia risk
    - Visualization, exploratory data analysis

- MS Program in Department of Statistics, Sookmyung Women's University
  - Joona Goo, PhD (2012.3~2014.2)
    - (Thesis Title) Text Mining for Korean: Characteristics and Application to 2011 Korean Economic Census Data
    - PhD @ Michigan State University, USA
    - Postdoctoral Fellow @ Fred Hutchinson Cancer Research Center, USA
    - Currently working as a tenure-track Assistant Professor @ Department of Mathematics, Boise State University, USA

PROFESSIONAL MEMBERSHIPS AND PUBLIC SERVICES

- International Biometrics Society
- The Korean Statistical Society
  - Biostatistics Section
- The Korean Society of Health Information and Statistics
  - Auditor General (March 2017- February 2023)
  - Secretary General (March 2015- February 2017)
- Judge (September 2014– present)
  Panel B, IRB (Institutional Review Board), Samsung Medical Center
- Academic Journal Statistical Editor (2013-present)
  Clinical Nutrition Research, Journal of Asian Women (KCI)
- Academic Journal Reviewer (2008-present)
  Bioinformatics, Computational Statistics; BMC Bioinformatics; The Koran Journal of Applied Statistics; Communications for Statistical Applications and Methods; International Journal of Data Mining & Bioinformatics; Genomics and Bioinformatics

HONORS AND AWARDS

- SAIHST Arrow Award for Outstanding Teaching (2018) Sungkunkwan University
- Faculty of Outstanding Research (2013) Sookmyung Women's University
- Research and Teaching Assistantship (2001-2007) Purdue University.
- WISP Graduate Attendance Award (2004) Women in Science Programs, Purdue University.
- Purdue Presidential Fellowship (1999-2001) Purdue University.
- SNU Alumni Association Fellowship (1990-1991) Seoul National University.
- SNU Scholarship (1988-1989) Seoul National University.