Seokyung An, BS, PhD

Biostatistician

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🪪 Profile

I am a highly motivated data scientist and statistician with expertise in big data analysis and predictive modeling based on artificial intelligence. I am proficient in statistical programming languages, including R, SAS, SPSS, PLINK, and Python. Notably, I have received three patents for machine learning-based metabolic disease prediction models as part of Korea's national R&D projects. Additionally, I served as Chief of the Precision Medicine Lab at Seoul National University.

🎓 Education

03/2016 – 08/2022 Seoul, South Korea	**Doctor of Philosophy, Medical Science** *Seoul National University Graduate School, Department of Biomedical Sciences*
03/2012 – 02/2016 Seoul, South Korea	**Bachelor of Statistics** *Sungshin Women's University, Department of Statistics*

🧠 Skills

Statistical analysis   ● ● ● ● ●
R, SAS, SPSS, PLINK, Python

Artificial intelligence modeling   ● ● ● ● ●
Machine learning and Deep learning

Healthcare data management   ● ● ● ● ●
Data scientist

Epidemiology   ● ● ● ● ●
Biomedical science background

💼 Professional Experience

06/2015 – 08/2015 Ilsan, Soul Korea	**Intern** *National Cancer Center* Investigated the association between colorectal cancer and dietary intake.
06/2014 – 08/2014 Seoul, South Korea	**Intern** *Seoul National University Cancer Research Institute* Investigated hereditary breast cancer and analyzed cohort data from the Korean Hereditary Breast Cancer Study (KOHBRA).
03/2016 – 08/2022 Seoul, South Korea	**Full-time graduate student** *Seoul National University Graduate School* Mastered advanced biostatistics and epidemiology and developed metabolic disease prediction models using artificial intelligence methods.

10/2022 – present Ilsan, South Korea	**Postdoctoral fellow** *National Cancer Center* Investigated the relationships between environmental and genomic factors in cancer and developed cancer prediction models using artificial intelligence.

📂 Projects

03/2018 – 12/2020	**Implementation Research for Blood Pressure Management in Elderly** *National R&D Projects* Calculated sample sizes for Randomized Controlled Trial (RCT) and analyzed clinical data.
09/2017 – 08/2020	**Estimation of the Population Attributable Fraction (PAF) of Major Risk Factors for Cancer Among Koreans** *Korean Foundation for Cancer Research Project* Estimated population-attributable risk for cancers and projected cancer incidence and mortality in Korea.
04/2016 – 12/2018	**Development of Individualized Preventive Management Service Model through Implementation of Disease Risk Atlas and Risk Prediction of Korean Common Chronic Diseases** *National R&D Project* Collaborated with an engineering team to develop machine learning-based metabolic disease prediction models using R, SAS, and Python.

📖 Publications

02/2023	**Factor Xa Inhibitors Versus Vitamin K Antagonist in Morbidly Obese Patients With Venous Thromboembolism: A Systematic Review and Meta-Analysis** ⬀ *BMC Cardiovasc Disord. PMID: 36814196*
02/2023	**Trends and impact of intravascular ultrasound and optical coherence tomography on percutaneous coronary intervention for myocardial infarction** ⬀ *Int J Cardiol Heart Vasc. 2023. PMID: 36852085*
01/2023	**Network Meta-Analysis Comparing Angiotensin Receptor-Neprilysin Inhibitors, Angiotensin Receptor Blockers, and Angiotensin-Converting Enzyme Inhibitors in Heart Failure With Reduced Ejection Fraction** ⬀ *Am J Cardiol. 2023. PMID: 36459752*
11/2022	**Abbreviated versus Standard Duration of DAPT after PCI: A Systematic Review and Network Meta-analysis. Am J Cardiovasc Drugs** ⬀ *Am J Cardiovasc Drugs. PMID: 35781867*
11/2022	**Impact of pulmonary embolism on perioperative outcomes of coronary artery bypass graft** ⬀ *Coron Artery Dis. PMID: 35500089*
11/2022	**Projection of Cancer Incidence and Mortality From 2020 to 2035 in the Korean Population Aged 20 Years and Older** ⬀ *J Prev Med Public Health. PMID: 36475318*

11/2022	**Indoor tanning and the risk of overall and early-onset melanoma and non-melanoma skin cancer: Systematic review and meta-analysis.** ⧉ *Cancers (Basel). PMID: 34885049*
11/2022	**In-hospital prognosis of malignancy-related pulmonary embolism: an analysis of the national inpatient sample 2016-2018** ⧉ *J Thromb Thrombolysis. PMID: 35876942*
10/2022	**Modified reverse shock index predicts early outcomes of heart failure with reduced ejection fraction** ⧉ *ESC Heart Fail. PMID: 35775109*
10/2022	**Readmission rates and risk factors for readmission after transcatheter aortic valve replacement in patients with end-stage renal disease** ⧉ *PLoS One. 2022. PMID: 36264931*
10/2022	**Association of metabolic comorbidity with myocardial infarction in individuals with a family history of cardiovascular disease: a prospective cohort study** ⧉ *BMC Public Health. 2022. PMID: 36316766*
10/2022	**Incidence and risk factors of atrial fibrillation and atrial arrhythmias in people living with HIV: a systematic review and meta-analysis** ⧉ *J Interv Card Electrophysiol. PMID: 35610524*
09/2022	**Shortening the Duration of Dual Antiplatelet Therapy after Percutaneous Coronary Intervention for Acute Coronary Syndrome: A Systematic Review and Meta-analysis** ⧉ *Am Heart J. PMID: 35654162*
07/2022	**Myocarditis after COVID-19 mRNA vaccination: A systematic review of case reports and case series** ⧉ *Clin Cardiol. PMID: 35652390*
06/2022	**Systematic review and network meta-analysis comparing bifurcation techniques for percutaneous coronary intervention** ⧉ *Journal of the American Heart Association. PMID: 35723005*
06/2022	**Binary cutpoint and the combined effect of systolic and diastolic pressure on cardiovascular disease mortality: A community-based cohort study** ⧉ *PLoS One. PMID: 35771898*
05/2022	**Comparison of the Prevalence of Cardiometabolic Disorders and Comorbidities in Korea and United States: Analysis of the National Health and Nutrition Examination Survey** ⧉ *J Korean Med Sci. PMID: 35535376*
03/2022	**Individualized Biological Age as a Predictor of Disease: Korean Genome and Epidemiology Study (KoGES) Cohort** ⧉ *J Pers Med. PMID: 35330504*
03/2022	**Effect of weight loss on recurrence of atrial fibrillation after ablative therapy: a systematic review and meta-analysis** ⧉ *J Interv Card Electrophysiol. PMID: 35258752*

| 11/2021 | **Obesity measures at baseline, their trajectories over time, and the incidence of chronic kidney disease: A 14 year cohort study among Korean adults** ⧉ |
| | *Nutr Metab Cardiovasc Dis. PMID: 33546946* |

| 11/2020 | **Isoflavone intake on the risk of overall breast cancer and molecular subtypes in women at high risk for hereditary breast cancer** ⧉ |
| | *Breast Cancer Res Treat. PMID: 33068197* |

| 08/2019 | **Long-term Breastfeeding in the Prevention of Allergic Rhinitis: Allergic Rhinitis Cohort Study for Kids (ARCO-Kids Study)** ⧉ |
| | *Clin Exp Otorhinolaryngol. PMID: 30992421* |

🏷 Patents

| 07/2020 Sourth Korea | **Apparatus and method for predicting chronic kidney disease** *(Patent Registration No: KR 1020200000929)* |

| 06/2019 South Korea | **Device and method for biometric age prediction model generation** *(Patent Registration No: KR 1020180156873)* |

| 06/2019 United States | **Apparatus and method for predicting disease risk of metabolic disease** *(Patent Publication No: US20190172587A1)* |

🏅 Awards

| 07/2019 | **Young Investigator Award** *The Korean Society of Cancer Prevention* |

| 07/2018 | **Young Investigator Award** *The Korean Society of Cancer Prevention* |

| 07/2017 | **Young Investigator Award** *The Korean Society of Cancer Prevention* |

🏷 Certificates

SAS Certified Base Programmer for SAS 9
SAS Global Certification, Certificate Verification No.Y9V19JB12F4Q1T5X

🌐 Languages

| **English** | **Korean** | **Chinese** |
| *Fluent* | *Native* | *Conversational* |