

# Seokyung An, PhD

## Biostatistician | Data Scientist

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🔗 <https://seokyungan.github.io/>

### Profile

I am a highly motivated biostatistician and epidemiologist 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*

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

**Data management**  
*Data scientist*

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**Epidemiology** ● ● ● ● ●  
*Biomedical science background*

### Professional Experience

06/2015 – 08/2015  
Ilsan, South 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	<b>Obesity measures at baseline, their trajectories over time, and the incidence of chronic kidney disease: A 14 year cohort study among Korean adults</b> <a href="#">↗</a> <i>Nutr Metab Cardiovasc Dis. PMID: 33546946</i>
11/2020	<b>Isoflavone intake on the risk of overall breast cancer and molecular subtypes in women at high risk for hereditary breast cancer</b> <a href="#">↗</a> <i>Breast Cancer Res Treat. PMID: 33068197</i>
08/2019	<b>Long-term Breastfeeding in the Prevention of Allergic Rhinitis: Allergic Rhinitis Cohort Study for Kids (ARCO-Kids Study)</b> <a href="#">↗</a> <i>Clin Exp Otorhinolaryngol. PMID: 30992421</i>

### Patents

07/2020 South Korea	<b>Apparatus and method for predicting chronic kidney disease</b> <i>(Patent Registration No: KR 1020200000929)</i>
06/2019 South Korea	<b>Device and method for biometric age prediction model generation</b> <i>(Patent Registration No: KR 1020180156873)</i>
06/2019 United States	<b>Apparatus and method for predicting disease risk of metabolic disease</b> <i>(Patent Publication No: US20190172587A1)</i>

### Awards

07/2019	<b>Young Investigator Award</b> <i>The Korean Society of Cancer Prevention</i>
07/2018	<b>Young Investigator Award</b> <i>The Korean Society of Cancer Prevention</i>
07/2017	<b>Young Investigator Award</b> <i>The Korean Society of Cancer Prevention</i>

### Certificates

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

### Languages

**English**  
*Fluent*

**Korean**  
*Native*

**Chinese**  
*Conversational*