Seokyung An, BS, PhD

Biostatistician

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https://seokyungan.github.io/

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
Fluent

Korean
Native

Chinese
Conversational