

# Hyoju Sohn

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## RESEARCH INTERESTS

AI for Healthcare

## RESEARCH POSITIONS

AI researcher	Gyeonggi, South Korea
Center for Artificial Intelligence in Healthcare, Seoul National University Bundang Hospital	Oct 2022 - present
Graduate Research Assistant	Seoul, South Korea
Ewha Brain Institute, Ewha Womans University	Sep 2020 - Aug 2022
Undergraduate Intern	Seoul, South Korea
Ewha Brain Institute, Ewha Womans University	Aug 2018 - Sep 2018

## JOURNAL PUBLICATIONS

\*denotes equal contribution

- **Sohn HJ\***, Park HY\*, Hong AR, Han SW, Jang YN, Yoon EK, Park HY. Prediction for COVID-19 delirium in Korean Multidisciplinary Cohort for Delirium Prevention. *International Journal of Medical Informatics* (*Under press*)
- Kim NH, Kim MJ, **Sohn HJ**, Oh BJ, Lee JW, Ahn SM, Han JS. Machine learning model for predicting depression in second-hand smokers in cross-sectional data using Korea National Health and Nutrition Examination Survey. *Digital Health*. 2024;10. doi:10.1177/20552076241257046
- Kim MJ, **Sohn HJ**, Choi SK, Kim SJ. Requirements for trustworthy artificial intelligence and application in healthcare. *Healthcare Informatics Research*. 2023;29(4):315-322. doi: [10.4258/hir.2023.29.4.315](https://doi.org/10.4258/hir.2023.29.4.315)

## CONFERENCE CONTRIBUTIONS

\*denotes equal contribution

- **Sohn HJ**, Kim MJ, Kim SJ. Medication recommendation model for diabetic kidney disease patients with personalized graphs. *Korea Society of Artificial Intelligence in Medicine 2024 (KOSAIM 2024)*. Seoul, South Korea
- Paik HR, Hong YH, **Sohn HJ**, Kim MJ, Lee JR. Predicting clinical pregnancy outcomes in fresh cycle IVF-ET: an artificial intelligence-based approach with specific cycle parameters. *American Society for Reproductive Medicine 2023 Scientific Congress & Expo*. New Orleans, Louisiana, United States
- Kim MJ, **Sohn HJ**, Hong JE, Park JB, Han JW, Kim KW. Development of a machine learning model to diagnose dementia using questionnaires assessing subjective memory complaints and depressive symptoms. *SNUBH Healthcare Innovation Park Research Fair 2022*. Gyeonggi, South Korea
- **Sohn HJ**, Jeong HS, Kang IH, Lee SJ, Hong HJ, Joo YJ, Kim HY, Yoon SJ, Lyoo IK. Brain structural alterations of the insula and prefrontal cortex in panic disorder. *The 22<sup>nd</sup> WPA World Congress of Psychiatry (WCP 2022)*. Bangkok, Thailand (*Oral presentation*)
- Joo YJ, Hwang JW, Lee SJ, Kang IH, Ha EJ, **Sohn HJ**, Kim HY, Yoon SJ, Lyoo IK. A novel brain age prediction model using a CNN-MLP algorithm. *The 22<sup>nd</sup> WPA World Congress of Psychiatry (WCP 2022)*. Bangkok, Thailand
- Kim HY, Kang IH, Ha EJ, Jeong HS, Kim SH, **Sohn HJ**, Joo YJ, Kim JS, Kim JY, Lyoo IK, Yoon SJ. Reduced cortical thickness in the insula and middle temporal gyrus in patients with complex regional pain syndrome patients. *the 25<sup>th</sup> Annual Meeting of the Korean Society for Brain and Neural Sciences (KSBNS 2022)*. Seoul, South Korea
- Namgung E, Kim JE, **Sohn HJ**, Jeong HS, Hong GH, Kim JY, Yoon SJ, Lyoo IK. The gray matter volume changes following 8-week administration of Korean red ginseng. *the 24<sup>th</sup> Annual Meeting of the Korean Society for Brain and Neural Sciences (KSBNS 2020)*. Seoul, South Korea

## EDUCATION

M.S. in Brain and Cognitive Sciences (GPA: 4.07/4.3)	Seoul, South Korea
Ewha Womans University	Sep 2020 - Aug 2022
B.S. in Brain and Cognitive Sciences (GPA: 3.70/4.3)	Seoul, South Korea
Ewha Womans University	Mar 2016 - Aug 2020

## AI DEPLOYMENT-RELATED EXPERIENCE

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- Led the deployment machine learning model-based delirium prediction and intervention website (*In progress*)
- Actively participated in coordinating a national project for medical AI solution utilization, “Dr. Answer Clinic”
- Participated in the planning of a large language model-based medical record explanation application, “SickGPT”

## ACADEMIC HONORS & AWARDS

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Outstanding Ewha Scientist Scholarship	Seoul, South Korea Sep 2020 - Jun 2021
Research Assistant Scholarship (Fall 2021, Spring 2022)	Seoul, South Korea Sep 2021 - Jun 2022
Dean's list	Seoul, South Korea 2016 Fall

## COMPUTATIONAL SKILLS

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- Programming language: Python (advanced), MATLAB (intermediate), R (intermediate)
- Framework: PyTorch
- Statistical software: STATA

## TEACHING EXPERIENCE

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Teaching assistant - Seoul National University, Jul 2023  
Course: Application of generative AI in medical research

## LECTURER EXPERIENCE

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Guest Lecturer – Korea Biotechnology Industry Organization (KoreaBio), Aug 2024 - Oct 2024  
Program: Digital Healthcare Workforce Training Program  
Lecture topic: Applications of AI in Personalized Medicine  
Invited Speaker - The Electronic Times, Generative AI for Industrial Innovation Grand Summit 2023, Jun 2023  
Talk: Development of a medical record explanation application using a large language model  
Invited Speaker - NIPA (National IT Industry Promotion Agency), AI proficiency course, Mar 2023  
Talk: Development of a medical record explanation application using a large language model

## LANGUAGES

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Korean (native), English (fluent), Japanese (intermediate)