

Yeasul Kim

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[Google Scholar](#) | [GitHub](#) |

EDUCATION

Stanford University <i>Postdoctoral Research Fellow</i> Department of Pediatrics Department of Anesthesiology (Medical Leave Mar 2025 – Jan 2026)	Stanford, CA Feb 2026 – Current Sep 2021 – Feb 2025
Georgia Institute of Technology <i>Master of Biomedical Engineering</i>	Atlanta, GA 2018 – 2019
Sungkyunkwan University (SKKU) School of Medicine <i>Doctor of Medicine (MD)</i>	Seoul, South Korea 2010 – 2014
KAIST (Korea Advanced Institute of Science and Technology) <i>Bachelor of Science (BS)</i>	Daejeon, South Korea 2005 – 2009

RESEARCH EXPERIENCE

Stanford University <i>Postdoctoral Research Fellow, Department of Pediatrics</i>	Stanford, CA Feb 2026 – Present
- Leading two translational machine learning projects: (1) predicting gestational diabetes and neonatal outcomes using high-dimensional multi-omics data (2) predicting neonatal growth faltering in low- and middle-income countries using maternal multi-omics data.	
<i>Postdoctoral Research Fellow, Department of Anesthesiology</i>	Sep 2021 – Feb 2025
- Led a project, <i>PregMedNet</i>, a machine learning framework for systematically analyzing the effects of maternal medications on neonatal complications in pregnancy. <i>PregMedNet</i> (website) Resulted in a first- and co-corresponding-author manuscript accepted in principle at Nature Communications. - Contributed to and co-authored machine learning projects focused on pediatric disorders, brain resilience, and stroke. - Contributed to and co-authored bioinformatics algorithm projects.	
Georgia Tech - Emory University <i>Graduate Research Assistant</i>	Aug 2018 – July 2019 Atlanta, GA
Developed AI/ML solutions for early diagnosis of sepsis.	
Korea University School of Medicine <i>Clinical Researcher</i>	Sep 2017 – July 2018 Seoul, South Korea
Developed a novel intraoperative fluorescent imaging technique for robot-assisted pulmonary segmentectomy.	
Samsung Medical Center <i>Medical Student Research Assistant</i>	Summer 2013 Seoul, South Korea
Led a project to identify relationships between household composition, geriatric depression, and suicidal ideation.	

INDUSTRY EXPERIENCE

Humana <i>Data Scientist</i>	Mar 2020 – Aug 2021 Boston, MA
Designed clinical and algorithmic methods to stratify members by healthcare risk score.	
Insight Data Science <i>Health Data Science Fellow</i>	Sep 2019 – Feb 2020 Boston, MA
Developed an algorithm to classify sleep stages using polysomnography data.	

Published:

1. **Kim, Y.***, Marić, I., Kashiwagi, C.M., et al., Aghaeepour, N. “PregMedNet: Multifaceted Maternal Medication Impacts on Neonatal Complications.” *Nature Communications*, 2026. (***First author and co-corresponding author**) [↗](#)
2. Espinosa, C.A., Njunge, J.M., Tickell, K.D., Diallo, A.H., Sayeem Bin Shahid, A.S.M., ..., **Kim, Y.**, et al. “Multiomics characterization of acute child illness and mortality in Africa and South Asia.” *Nature Communications*, 2026. [↗](#)
3. Chang, A.L., Reiss, J.D., Culos, A., Becker, M., Mayo, J.A., Marić, I., ..., **Kim, Y.**, et al. “Quantitative assessment of neonatal health using dried blood spot metabolite profiles and deep learning.” *Science Translational Medicine*, vol. 18, no. 833, eadv4942, 2026. [↗](#)
4. Chung, P., Swaminathan, A., Goodell, A.J., **Kim, Y.**, Reincke, S.M., Han, L., et al. “Verifying Facts in Patient Care Documents Generated by Large Language Models Using Electronic Health Records.” *NEJM AI*, vol. 3, no. 1, AIdbp2500418, 2025. [↗](#)
5. Xie, F., Chung, P., Reiss, J.D., Tjoa, E., De Francesco, D., Phongpreecha, T., ..., **Kim, Y.**, et al. “Development and validation of a pre-trained language model for neonatal morbidities: a retrospective, multicentre, prognostic study.” *The Lancet Digital Health*, vol. 7, no. 12, 2025. [↗](#)
6. Berson, E., Perna, A., Bukhari, S., **Kim, Y.**, Xue, L., Seong, D., Mataraso, S., et al. “Deep learning-based cell type profiles reveal signatures of Alzheimer’s disease resilience and resistance.” *Brain*, vol. 148, no. 10, pp. 3665–3678, 2025. [↗](#)
7. Phongpreecha, T., Ghanem, M., Reiss, J.D., ..., **Kim, Y.**, et al. “AI-guided precision parenteral nutrition for neonatal intensive care units.” *Nature Medicine*, vol. 31, no. 6, pp. 1882–1894, 2025. [↗](#)
8. Gaudilliere, B., Xue, L., ..., **Kim, Y.**, et al. “Infusion of young donor plasma components in older patients modifies the immune and inflammatory response to surgical tissue injury: a randomized clinical trial.” *Journal of Translational Medicine*, vol. 23, no. 1, Article 183, 2025. [↗](#)
9. Mataraso, S.J., Espinosa, C.A., De Seong, D., Reincke, S.M., Berson, E., Reiss, J.D., ..., **Kim, Y.**, et al. “A machine learning approach to leveraging electronic health records for enhanced omics analysis.” *Nature Machine Intelligence*, vol. 7, no. 2, pp. 293–306, 2025. [↗](#)
10. Chung, P., Swaminathan, A., Goodell, A., **Kim, Y.**, Reincke, M., Han, L., et al. “MIMIC-III-ext-VeriFact-BHC: labeled propositions from Brief Hospital Course summaries for long-form clinical text evaluation.” 2025. [↗](#)
11. Seong, D., Mataraso, S., Espinosa, C., Berson, E., Reincke, S.M., Xue, L., ..., **Kim, Y.**, et al. “Generating pregnant patient biological profiles by deconvoluting clinical records with electronic health record foundation models.” *Briefings in Bioinformatics*, vol. 25, no. 6, bbae574, 2024. [↗](#)
12. Ghanem, M., Espinosa, C., Chung, P., Reincke, M., Harrison, N., ..., **Kim, Y.**, et al. “Comprehensive overview of the anesthesiology research landscape: A machine learning analysis of 737 NIH-funded anesthesiology primary investigator publication trends.” *Heliyon*, vol. 10, no. 7, 2024. [↗](#)
13. Phongpreecha, T., Godrich, D., Berson, E., Espinosa, C., **Kim, Y.**, Cholerton, B., et al. “Quantitative estimate of cognitive resilience and its medical and genetic associations.” *Alzheimer’s Research & Therapy*, vol. 15, no. 1, Article 192, 2023. [↗](#)
14. Berson, E., Sreenivas, A., Phongpreecha, ..., **Kim, Y.**, et al. “Whole genome deconvolution unveils Alzheimer’s resilient epigenetic signature.” *Nature Communications*, vol. 14, no. 1, Article 4947, 2023. [↗](#)

15. Phongpreecha, T., Cholerton, B., Bukhari, S., ..., **Kim, Y.**, et al. "Prediction of neuropathologic lesions from clinical data." *Alzheimer's & Dementia*, vol. 19, no. 7, pp. 3005–3018, 2023. [↗](#)
16. Becker, M., Nassar, H., Espinosa, C., Stelzer, I.A., Feyaerts, D., Berson, E., ..., **Kim, Y.**, et al. "Large-scale correlation network construction for unraveling the coordination of complex biological systems." *Nature Computational Science*, vol. 3, no. 4, pp. 346–359, 2023. [↗](#)
17. De Francesco, D., Reiss, J.D., Roger, J., Tang, A.S., Chang, A.L., Becker, M., ..., **Kim, Y.**, et al. "Data-driven longitudinal characterization of neonatal health and morbidity." *Science Translational Medicine*, vol. 15, no. 683, eadc9854, 2023. [↗](#)
18. Becker, M., Dai, J., Chang, A.L., Feyaerts, D., Stelzer, I.A., Zhang, M., Berson, E., ..., **Kim, Y.**, et al. "Revealing the impact of lifestyle stressors on the risk of adverse pregnancy outcomes with multitask machine learning." *Frontiers in Pediatrics*, vol. 10, Article 933266, 2022. [↗](#)
19. **Kim, Y.***, Rho, J., Quan, Y.H., Choi, B.H., Han, K.N., Kim, H.K., et al. "Simultaneous visualization of pulmonary nodules and intersegmental planes on fluorescent images in pulmonary segmentectomy." *European Journal of Cardio-Thoracic Surgery*, vol. 58, Suppl. 1, pp. i77–i84, 2020. (***First author**) [↗](#)

In preparation:

20. James, T., Onwuzuligbo, J., ..., **Kim, Y.**, et al. "An AI Model for Early Detection of Chorioamnionitis" *In preparation*.
21. Payrovnaziri, S., Shome, S., ..., **Kim, Y.**, et al. "Dynamics Trajectories of Lab Measurements in the First 26 Weeks of Life" *In preparation*.

FELLOWSHIPS & AWARDS

1. Research Award for Best Data Science Abstract, Stanford University School of Medicine, Department of Anesthesia (2024).
2. Pathways to Neurosciences Fellowship, Wu Tsai Neurosciences Institute, Stanford University (2022–2024).
3. Samsung Scholarship (2010-2014).
4. National Excellence Scholarship (Natural Sciences and Engineering), Ministry of Science, South Korea, (2005-2009).

INVITED TALKS AND ORAL PRESENTATIONS

1. March of Dimes Prematurity Research Center Monthly Data Meeting (Apr/2026).
2. 2024 Stanford BPD Research Symposium (Oct/2024).
3. 2024 Annual Research Award Dinner, Stanford University, Department of Anesthesiology (June/2024).
4. March of Dimes Prematurity Research Center Annual Symposium (Dec/2023).
5. March of Dimes Prematurity Research Center Stanford Site Visit (Aug/2023).
6. Stanford-UCSF Prematurity Research Center Joint Seminar (Oct/2022).
7. Stanford-Harvard Perinatal Medication Safety Research Group Joint Seminar (Sep/2022).

MENTORSHIP

1. Mentor to High School Students in the Pediatrics Internship Program (PIPS) at Stanford (Summer 2026).
2. Mentor to a Visiting Master's Student (Fall 2024).
3. Mentor to a Stanford Medical Student (Fall 2022 – Winter 2023).

PATENT

1. Y Kim., et al., "a size changeable vaginal canal pressure measurement tool to better treat pelvic floor prolapse (POP) patients", provisional (US 62/880,863), expired as of July/2020.

LICENSE

1. Medical License, Ministry of Health and Welfare, South Korea, (Issued in 2014).