

Jinil Kim

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RESEARCH INTEREST

- Clarifying causal factors of individual differences via computational modeling of brain-behavior dynamics
- Translational neuromodeling for diagnosis, intervention, and brain-inspired computing

EDUCATION

Seoul National University Seoul, South Korea
B.A. Linguistics · B.A. Psychology · B.S. Computer Science Mar 2021 – Exp. Feb 2027
GPA: 4.18 / 4.3 (3.96 / 4.0) | Major GPA (4.0): Ling./Psych.: 4.00, CS: 3.82
* Mandatory military service, Jul 2023 – Jan 2025

The University of Hong Kong Hong Kong SAR
Summer Research Program, Faculty of Psychology Jun 2025 – Aug 2025

RESEARCH EXPERIENCE

Mental health, Internet, Neuroscience & Decision-making Lab University of Hong Kong
Visiting Researcher (Advisor: Prof. Yuan-Wei Yao) Jun 2025 – Aug 2025

- Developed a time-varying Drift Diffusion Model (tDDM) to investigate the hierarchical influence of emotion and reward prediction errors in social decision-making

Computational Clinical Science Laboratory Seoul National University
Undergraduate RA (Advisor: Prof. Woo-Young Ahn) Apr – Jun 2025; Sep 2025 –

- Developed an Adversarial Inverse Reinforcement Learning (AIRL) model with interpretable parameters to capture individual differences in decision policies.
- Designed a hierarchical multimodal model integrating EEG, behavioral, and app-based digital phenotype data to predict alcohol craving.

ONGOING PROJECTS

Development of a Personalized Color Vision Correction Display Filter Using fMRI-Based Neural Responses and Deep Learning
Project Lead (Advisor: Prof. Jiook Cha) Apr 2025 – Present

- Designed the full research pipeline: experiment design, data preprocessing, neural modeling, and optimization-based filter generation.
- Analyzed inter-individual coherence and disparity of individuals with color vision deficiencies in neural color geometry using Procrustes alignment.
- Funded by SNU Undergraduate Research Grant (\$3,500).

Inference of Latent Planning Depth in Human Pedestrian Navigation Using Planning-Aware Inverse Reinforcement Learning
Research Analyst (Advisor: Prof. Woo-Young Ahn) Sep 2025 – Present

- Developing a planning-aware inverse reinforcement learning framework to infer latent planning depth from human sequential decision-making.

A Time-Varying Drift Diffusion Model of Emotion and Reward Prediction Errors in Depression
Project Lead (Advisor: Prof. Yuan-Wei Yao) Jun 2025 – Present

- Developed a time-varying Drift Diffusion Model (tDDM) to investigate the hierarchical influence of emotion and reward prediction errors in social decision-making

POSTER PRESENTATIONS

- Kim, Jinil, Cho, M., Seo, J., Cha, J. (Jun 2026). *fMRI Decoding Reveals Intact Neural Color Representations in Color Vision Deficiency*. Poster accepted for presentation at the 2026 Organization for Human Brain Mapping (OHBM) Annual Meeting, Bordeaux, France.
- Kim, Jinil, Yao, Y. W. (Aug 2025). *Why Do Depressed Individuals Punish?: A Computational Investigation of Emotion Learning and Bias in Maladaptive Social Behavior*. Poster presented at the Summer Research Program Poster Session, University of Hong Kong.

GRANTS

KOSAF Humanity 100 Years Undergraduate Scholarship Mar 2025 – Jul 2026
Amount: \$12,500 (KRW 17,000,000)

The University of Hong Kong Foundation for Educational Development and Research Scholarship Jun 2025 – Aug 2025
Amount: \$1,300 (HKD 10,000)

Superior Academic Performance scholarship Mar 2022, 2023; Sep 2022

HONORS & AWARDS

Best Poster Award in SNU Undergrad Research Program (4th Place) Jan 2026
SNU Liberal Arts Competition (1st Place) Jul 2023

TEACHING

Seoul National University Seoul, South Korea
Teaching Assistant, Basic Computing (English) Mar 2026
Teaching Assistant, Basic Computing (Korean) Sep 2025

SKILLS

Computational Modeling: Bayesian hierarchical models, Reinforcement Learning
Neuroimaging: fMRI preprocessing, Neural decoding
Programming: Python, R, Stan, C++, Java
ML & Data: Deep learning (MLP, CNN), high-dimensional time-series

LANGUAGES

Korean (Native), English (Full Professional Proficiency), French (Beginner)