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. (Under review). *fMRI Decoding Reveals Intact Neural Color Representations in Color Vision Deficiency.* Poster submitted to 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.

HONORS & AWARDS

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

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

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)