

Jinil Kim

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RESEARCH INTEREST

Clarifying causal factors of individual difference via Neuro-Decoding and Computational Modeling

EDUCATION

Seoul National University

B.A. in Linguistics, B.A. in Psychology, B.S. in Computer Science
GPA: 4.18 / 4.3 | Major (4.0): Ling./Psych.: 4.00, CS: 3.82

Seoul, South Korea
Mar 2021 – Exp. Feb 2027

The University of Hong Kong

Summer Research Program, Faculty of Psychology

Hong Kong SAR
Jun 2025 – Aug 2025

RESEARCH EXPERIENCE

Mental health, Internet, Neuroscience & Decision-making Lab

Undergraduate Researcher (Advisor: Prof. Yuan-Wei Yao)

University of Hong Kong
Jun 2025 – Aug 2025

- Developed and compared hierarchical Bayesian RL-DDM variants to model emotion and reward prediction errors in social decision-making.
- Introduced a time-varying Drift Diffusion Model (tDDM) to study how emotion-based and reward-based prediction errors dynamically shape social decision-making

Computational Clinical Science Laboratory

Undergraduate RA (Advisor: Dr. Woo-Young Ahn)

Seoul National University
Apr – Jun 2025; Sep 2025 –

- Implemented RL-based behavioral models to dissociate stable trait parameters from dynamic state-dependent fluctuations.
- Contributed to a multimodal project integrating EEG, behavioral, and app-based digital phenotype data for mental health risk modeling.

ONGOING PROJECTS

Development of a Personalized Color Vision Correction Display Filter Using fMRI-Based Neural Responses and Deep Learning

Project Lead

Apr 2025 – Present

- Applied ROI-based decoding, forward encoding models, and Procrustes alignment to identify individual-specific neural color spaces.
- Designed the full research pipeline: experiment design, data preprocessing, neural modeling, and optimization-based filter generation.
- Funded by SNU Undergraduate Research Grant (KRW 5,000,000).

Time-Varying Drift Diffusion Modeling of Emotion and Reward in Depression

Project Lead

Jun 2025 – Present

- Introduced a time-varying Drift Diffusion Model (tDDM) to study how emotion-based and reward-based prediction errors dynamically shape social decision-making

POSTER PRESENTATIONS

- 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

Humanity 100 Years Undergraduate Scholarship

Amount: KRW 17,000,000 (USD 12,500)

Korea Student Aid

Foundation

Mar 2025 – Jul 2026

The University of Hong Kong Foundation for Educational Development and Research Scholarship

Amount: HKD 10,000 (USD 1,284)

The University of Hong Kong

Kong

Jun 2025 – Aug 2025

Grand prize in SNU Liberal Arts Competition

Title: *Interdisciplinary exploration with chatbots*

Seoul National University

Jul 2023

Megastudy Student Achievement Scholarship

Amount: KRW 3,000,000 (USD 2,000)

MegaStudy

Mar 2021 – Mar 2022

Superior Academic Performance scholarship

Seoul National University

Mar 2022, 2023; Sep 2022

COMPETITIONS

Ambient AI Competition

Project: *Fashion Recommendation AI*

Seoul National University

Dec 2022 – Jan 2022

- Vectorized fashion dataset and extracted feature from image input by using VGG16 model.
- Finetuned MLP Model for recommendation

SKILLS

Computational Modeling: Bayesian hierarchical models, RL, DDM, RLDDM, mixed-effects models

Neuroimaging: fMRI preprocessing, ROI-based decoding, forward encoding models, EEG connectivity analysis

Programming: Python, R, Stan, C++, Java

ML & Data: Deep learning (MLP, CNN), high-dimensional time-series, multimodal data integration

LANGUAGES

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