Hee-Jun Jung

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Research Interests

- ML: Disentanglement Learning, Combinatorial Generalization, Representation Learning
- Vision: Generative Model, Variational Auto-Encoder (VAE)
- NLP: Knowledge Distillation
- Theory: Group Theory (Symmetries)

Education

- **Gwangju Institute of Science and Technology** — Gwangju, South Korea
  Integrated - AI Graduate School; GPA: 3.52/4.50 (current) — *Mar. 2020 - present*
  Courses: *Algorithms, Artificial Intelligence, Machine Learning, Reinforcement Learning*
- **Kyung Hee University** — Suwon, South Korea
  B.S. - Department of Mechanical Engineering; GPA: 3.72/4.30, — *Mar. 2012 - Feb. 2020*
  Courses: *Object-oriented Programming, Discrete Structure, Engineering Mathematics (1,2,3)*

Research Experience

- **Intelligent Robotic Mechatronics System Lab** — Kyung Hee University
  Undergraduate Researcher — *Mar. 2019 - Dec. 2019*
  - **Advisor**: Soon Geul Lee

Publications

Journal

- **CFASL: Composite Factor-Aligned Symmetry Learning for Disentanglement in Variational AutoEncoder, Transactions on Machine Learning Research (TMLR), 2024**: author: **Hee-Jun Jung**, Jaehyoung Jung, Kangil Kim;[paper, code, video]
- **Feature Structure Distillation with Centered Kernel Alignment in BERT transferring, Expert Systems With Applications, 2023**: IF 8.5, JCR 9.8%; author: **Hee-Jun Jung**, Doyeon Kim, Seung-Hoon Na, Kangil Kim; [paper, code]

Pre-print / Under Review

- **Consistent Symmetry Representation over Latent Factors of Identical Variations, ICLR 2025 under review**: author: **Hee-Jun Jung**, Hoyong Kim, Ilmin Kang, Kangil Kim;[paper, code]
- **Symmetric Space Learning for Combinatorial Generalization, ICLR 2025 under review**: author: Jaehyoung Jeong, **Hee-Jun Jung**, Kangil Kim;[paper, code]
- **Multiple Invertible and Equivariant Transformation for Disentanglement in VAEs, TPAMI, under review**: author: **Hee-Jun Jung**, Jaehyoung Jung, Kangil Kim; [paper, code]

Projects

- **Development of Schema-Loading Neural Network for Accumulation of Trained Hypotheses into General and Shared Hypotheses Space**: Work was supported by the National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIT) (2022R1A2C2012054)
- **Development of service robot and contents supporting children's reading activities based on artificial intelligence**: Work was supported by the Ministry of Culture, Sports and Tourism, in South Korea

Teaching

- **Natural Language Processing Lecture** — GIST
  Teaching Assistant — *2020, 2022*
  - **Model Implementation**: Implement RNN and Transformer model for Neural Machine Translation task. [lecture]

Skills Summary

- **Languages**: Python, C++
- **Frameworks**: Scikit, NLTK, Pytorch, matplotlib
- **Tools**: Docker, GIT
- **Platforms**: Linux, Windows
- **Soft Skills**: Leadership, Writing, Public Speaking

Honors and Awards

- RA Student Research Achievement Scholarship, AI Graduate School, GIST, 2024.
- Superiority Scholarship, Kyung Hee University, 2017, 2019.
- Mentor Scholarship, Kyung Hee University, 2015.