YOUNG JIN PARK

Cambridge, MA 02139 • youngp@mit.edu • (+1) 667-263-9852
https://young-j-park.github.io/

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) Cambridge, MA
Ph.D. Student at MIT LIDS. Sep 2022 - Present
- Supervisor: Navid Azizan (azizan@mit.edu).
- Working on the *uncertainty estimation in contrastive learning* and *uncertainty-aware transfer-learning*.

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST) Daejeon, Korea
M.S. in Aerospace Engineering. Converted GPA: 5.0/5.0 Feb 2019
- Supervisor: Han-Lim Choi (hanlimc@kaist.ac.kr).
- Thesis: "Interpretable Unsupervised Learning of Bayesian Nonparametric Dynamic State-Space Model."
- *Departmental M.S. Outstanding Paper Award*

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST) Daejeon, Korea
B.S. in Aerospace Engineering & Minor in Mathematical Sciences. Converted GPA: 4.97/5.0 Feb 2017
- *KAIST Presidential Fellowship* (awarded to ten students from the Class of 2017)
- *Departmental Exemplary Academic Achievement Award*

KOREA SCIENCE ACADEMY OF KAIST (KSA) Busan, Korea
- *Graduated with Academic Excellence Award* Feb 2013

INDUSTRY EXPERIENCE

NAVER AI LAB | CLOVA Seongnam-si, Korea
Research Engineer Feb 2019 – Aug 2022
- Developed a transferrable user behavior modeling using Transformers and language models.
- Developed a 45M-scale ensemble forecasting system using a self-supervised learning.
- Developed a 60M-scale recommender system using graph representation learning.

RESEARCH SKILLS

- *Uncertainty-aware* probabilistic deep learning
- *Unsupervised deep representation learning* for dynamical systems
- *Hierarchical RL* for efficient planning and control of robotic systems
- *Self-Supervised contrastive learning* for temporal data
- *Graph representation learning* for relational reasoning
- User behavior modeling with *a large-scale Transformers*

PUBLICATIONS

*Authors contributed equally; IF: Impact Factor

Selected Publications

1. **A Large-Scale Ensemble Learning Framework for Demand Forecasting**
   Y.J. Park, D. Kim, F. Odermatt, J. Lee, and K.M. Kim.
   In *IEEE International Conference on Data Mining (ICDM), 2022. (Acceptance rate: 9.77%)*

2. **Distilling a hierarchical policy for planning and control via representation and reinforcement learning**
   J.S. Ha*, Y.J. Park*, H.J. Chae, S.S. Park, and H.L. Choi.
   In *IEEE International Conference on Robotics and Automation (ICRA)*, 2021.

3. **A Worrying Analysis of Probabilistic Time-series Models for Sales Forecasting**
   S. Jung*, K.M. Kim*, H. Kwak*, and Y.J. Park*.
   In *Neural Information Processing Systems (NeurIPS), ICBINB Workshop, PMLR*, 2020. *(Best Poster Awards)*

4. **Adaptive Path-Integral Autoencoders: Representation Learning and Planning for Dynamical Systems**
   J.S. Ha, Y.J. Park, H.J. Chae, S.S. Park, and H.L. Choi.
   In *Neural Information Processing Systems (NeurIPS)*, 2018. *(Acceptance rate: 20.8%)*
5. **Deep Gaussian Process-Based Bayesian Inference for Contaminant Source Localization**
   Y.J. Park, P.M. Tagade, and H.L. Choi.
   UAI Workshop 2018: Uncertainty in Deep Learning & IEEE Access, 2018. [IF: 4.098]

Conference & Journals

6. **VQ-AR: Vector Quantized Autoregressive Probabilistic Time Series Forecasting** (Preprint)
   K. Rasul, Y.J. Park, M. Ramström, and K.M. Kim.
7. **Online Gaussian Process SSM: Learning and Planning for Partially Observable Dynamical Systems**
   S.S. Park, Y.J. Park, Y. Min, and H.L. Choi.
   International Journal of Control, Automation and Systems, 2022. [IF: 3.314]
8. **One4all User Representation for Recommender Systems in E-commerce** (Preprint)
   K. Shin, H. Kwak K.M. Kim, M. Kim, Y.J. Park, J. Jeong, and S. Jung
9. **A neural process approach for probabilistic reconstruction of no-data gaps in lunar digital elevation maps**
   Y.J. Park, and H.L. Choi.
   Aerospace Science and Technology, 2021. [IF: 5.107].
10. **Bayesian Nonparametric SSM for System Identification with Distinguishable Multimodal Dynamics**
    Y.J. Park, S.S. Park, and H.L. Choi.
    Journal of Aerospace Information Systems, 2021. [IF: 1.076]
11. **Efficient Sensor Network Planning Method using Approximate Potential Game.**
    S.J. Lee, Y.J. Park, and H.L. Choi.
    International Journal of Distributed Sensor Networks, 2018. [IF: 1.787]

Workshops & Late-Breaking Results (Short Papers)

12. **Uncertainty-Aware Meta-Learning for Multimodal Task Distributions**
    C. Almecija, A. Sharma, Y.J. Park, and N. Azizan
    In *Neural Information Processing Systems (NeurIPS), Workshop on Meta-Learning*, 2022.
13. **Global-Local Item Embedding for Temporal Set Prediction**
    S. Jung, Y.J. Park, J. Jeong, K.M. Kim, H. Kim, M. Kim, and H. Kwak.
    In *ACM Recommender Systems (RecSys), Late-Breaking Results*, 2021.
14. **Adaptive Memory using Dynamic Graph Networks for Staleness Problem in Recommender System**
    I.J. Kwon, K.M. Kim, J. Jeong, K. Shin, Y.J. Park, and B.T. Zhang.
    In *Knowledge Discovery and Data mining (KDD), Workshop on OARS*, 2021. (Spotlight)
15. **Hop Sampling: A Simple Regularized Graph Learning for Non-Stationary Environments**
    Y.J. Park, K. Shin, and K.M. Kim.
    In *Knowledge Discovery and Data mining (KDD), Workshop on MLG*, 2020.
16. **Multi-Manifold Learning for Large-scale Targeted Advertising System**
    K. Shin, Y.J. Park, and K.M. Kim.
    In *Knowledge Discovery and Data mining (KDD), AdKDD Workshop*, 2020.
17. **div2vec: Diversity-Emphasized Node Embedding**
    J. Jeong, J.M. Yun, H. Keam, Y.J. Park, Z. Park, and J. Cho.
    In *ACM Recommender Systems (RecSys), Workshop on the IRS*, 2020.
18. **Tripartite heterogeneous graph propagation for large-scale social recommendation**
    K.M. Kim*, D. Kwak*, H. Kwak*, Y.J. Park*, S. Sim, J.H. Cho, M. Kim, J. Kwon, N. Sung, and J.W Ha.
    In *ACM Recommender Systems (RecSys)*, *Late-Breaking Results*, 2019.

ACADEMIC HONORS

SBS Scholarship	2022-2027
Best Poster Awards, ICBINB@NeurIPS Workshop	2020
M.S. Outstanding Paper Award, Dept. of Aerospace Engineering, KAIST	2019
Young-Han Kim Global Leader Scholarship — Awarded to one M.S. student at KAIST	2018
Summa Cum Laude (Graduation Honors), KAIST	2017
GE Foundation Scholar-Leaders Program administered by Fulbright	2014-2016
Boeing Korea Scholarship	2014-2016
Samsung Electronics JFL Scholarship	2013-2016
KAIST Presidential Fellowship — Awarded to ten students from the Class of 2017	2013-2016