

# YOUNG JIN PARK

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## EDUCATION

### MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

**Ph.D. Student at MIT LIDS**

Cambridge, MA  
Sep 2022 - Present

### KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)

*M.S. in Aerospace Engineering*. Converted GPA: 5.0/5.0

- Supervisor: Han-Lim Choi, Ph.D.
- Thesis: "Interpretable Unsupervised Learning of Bayesian Nonparametric Dynamic State-Space Model."
- *Departmental M.S. Outstanding Paper Award*

Daejeon, Korea  
Feb 2019

### KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)

*B.S. in Aerospace Engineering & Minor in Mathematical Sciences*. Converted GPA: 4.97/5.0

- *KAIST Presidential Fellowship* (awarded to ten students from the Class of 2017)
- *Departmental Exemplary Academic Achievement Award*

Daejeon, Korea  
Feb 2017

### KOREA SCIENCE ACADEMY OF KAIST (KSA)

- *Graduated with Academic Excellence Award*

Busan, Korea  
Feb 2013

## INDUSTRY EXPERIENCE

### NAVER AI LAB | CLOVA

*Research Engineer*

Seongnam-si, Korea  
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
- *Self-Supervised contrastive learning* for temporal data
- *Graph representation learning* for relational reasoning
- User behavior modeling with *a large-scale Transformers*
- *Hierarchical RL* for efficient planning and control of robotic systems

## 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 (Accepted).

#### 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)

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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.
  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. **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].
9. **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]
10. **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)

11. **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.
12. **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.
13. **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)
14. **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.
15. **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.
16. **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.
17. **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.

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#### ACADEMIC HONORS

SBS Scholarship

2022-2027

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