

# YOUNG JIN PARK

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## EDUCATION

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**MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)** Cambridge, MA  
***Candidate for Ph.D. in Mechanical Engineering*** Sep 2022 - Present

**KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)** Daejeon, Korea  
***M.S. in Aerospace Engineering*** (GPA: 4.12/4.30) Feb 2019

- Supervisor: Han-Lim Choi, Ph.D.
- 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*** (GPA: 4.03/4.30) 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* (GPA: 4.00/4.30) Feb 2013

## PROFESSIONAL EXPERIENCE

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**NAVER CLOVA** Seongnam-si, Korea  
***Research Engineer*** Feb 2019 – Aug 2022

- Developed a user behavior modeling framework using Transformer-based language model.
- Developed a 45M-scale demand forecasting system using a self-supervised learning.
- Developed a 60M-scale recommender system using graph representation learning.

## RESEARCH SKILLS

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- *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

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\*Authors contributed equally; IF: Impact Factor

### Conferences & Journals

1. **Forchestra: Towards a Scalable and Flexible Time Series Prediction 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. **VQ-AR: Vector Quantized Autoregressive Probabilistic Time Series Forecasting**  
K. Rasul, Y.J. Park, M. Ramström, and K.M. Kim.  
In *AAAI Conference on Artificial Intelligence* (Submitted).
3. **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]
4. **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.

5. **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].
6. **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]
7. **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.
8. **Deep Gaussian Process-Based Bayesian Inference for Contaminant Source Localization**  
Y.J. Park, P.M. Tagade, and H.L. Choi.  
*IEEE Access*, 2018. [IF: 4.098].
9. **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

10. **Uncertainty-Aware Meta-Learning for Multimodal Task Distributions**  
S. Jung, Y.J. Park, J. Jeong, K.M. Kim, H. Kim, M. Kim, and H. Kwak.  
C. Almecija, A. Sharma, Y.J. Park, and N. Azizan  
In *Neural Information Processing Systems (NeurIPS), Workshop on Meta-Learning*, 2022.
11. **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.
12. **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)
13. **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)
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.

### 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

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<i>GE Foundation Scholar-Leaders Program</i> administered by Fulbright	2014-2016
<i>Boeing Korea Scholarship</i>	2014-2016
<i>Samsung Electronics JFL Scholarship</i>	2013-2016
<i>KAIST Presidential Fellowship</i> — Awarded to ten students from the Class of 2017	2013-2016