YOUNG JIN PARK

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RESEARCH INTEREST

- Efficient planning and control framework
- Flexible representation learning for robotic tasks
- Teaching robots to be smarter

RESEARCH SKILLS

- *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

PUBLICATIONS

*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 *Knowledge Discovery and Data mining (KDD)*, 2022 (Submitted).
2. **VQ-AR: Vector Quantized Autoregressive Probabilistic Time Series Forecasting**
   K. Rasul, Y.J. Park, M. Ramström, and K.M. Kim.
   In *Knowledge Discovery and Data mining (KDD)*, 2022 (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. **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.

11. **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)

12. **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)

13. **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.

14. **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.

15. **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.

16. **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.

EDUCATION

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

NAVER CLOVA — Seongnam-si, Korea
Research Engineer — Feb 2019 - Present
- Developing a 45M-scale demand forecasting system using a self-supervised learning.
- Developed a 60M-scale recommender system using graph representation learning.

KISWE — New Providence, NJ
Intern — Jun 2016 - Aug 2016
- Implemented a prototype of interactive ads for the Kiswe's social video app.

ACADEMIC HONORS

AWARDS

Best Poster Awards — ICBINB@NeuRIPS Workshop — Dec 2020

M.S. Outstanding Paper Award — Dept. of Aerospace Engineering, KAIST — Oct 2019

3rd Place — KSIAM-Math Works Problem Challenge — Nov 2017

Exemplary Academic Achievement Award — Dept. of Aerospace Engineering, KAIST — Sep 2017

Summa Cum Laude (Graduation Honors) — KAIST — Feb 2017

3rd Place — KSAS Undergraduate Student Paper Competition — Apr 2016

Academic Honors Student — Dept. of Aerospace Engineering, KAIST Mar 2015

SCHOLARSHIPS

Young-Han Kim Global Leader Scholarship — Awarded to one M.S. student at KAIST 2018

GE Foundation Scholar-Leaders Program — Administered by Fulbright and IIE 2014-2016

Boeing Scholarship 2014-2016

Samsung Electronics JFL Scholarship 2013-2016

KAIST Presidential Fellowship — Awarded to ten students from the Class of 2017 2013-2016