YOUNG JIN PARK

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)   Cambridge, MA
Ph.D. Candidate at MIT LIDS. GPA: 5.0/5.0   Sept. 2022 – June 2026
·   Supervisor: Navid Azizan
·   Working on *Characterizing Reliability & Failures in Foundation Models.*

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)   Daejeon, Korea
M.S. in Aerospace Engineering. Concentration in Artificial Intelligence. GPA: 4.12/4.3   Feb. 2017 – Feb. 2019
·   Supervisor: Han-Lim Choi
·   Researched on *Learning Unsupervised Representations from Sequential Data.*

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)   Daejeon, Korea
B.S. in Aerospace Engineering. Concentration in Mathematics. GPA: 4.03/4.3   Mar. 2013 – Feb. 2017
·   KAIST Presidential Fellow: awarded to top 10 students from the Class of 2017

KOREA SCIENCE ACADEMY OF KAIST (KSA)   Busan, Korea
·   GPA: 4.00/4.3   Feb. 2010 – Feb. 2013

PROFESSIONAL EXPERIENCE

META (Instagram Ads Delivery and Ranking Team)   Menlo Park, CA
ML PhD SWE Intern   May 2025 – Aug. 2025

MIT-IBM WATSON AI LAB   Cambridge, MA
Partner Researcher, Working on UQ for multistage reasoning in LLMs.   Sept. 2024 – May 2025

MITSUBISHI ELECTRIC RESEARCH LABORATORIES (MERL)   Cambridge, MA
Research Intern, Researched on Time-Series Foundation Models.   May 2024 – Aug. 2024

MIT-IBM WATSON AI LAB   Cambridge, MA
Partner Researcher, Researched on UQ for Self-supervised Models.   Mar. 2024 – May 2024

NAVER AI LAB | CLOVA (User Behavior BigModel Team)   Seongnam-si, Korea
Research Engineer, Developed User Models for E-Commerce Recommender Systems. Feb. 2019 – Aug. 2022

RESEARCH INTERESTS

AREAS: Machine Learning, Representation Learning, Uncertainty Quantification (UQ), Trustworthy AI
TOPICS: Large-Language Models, UQ for Multi-Stage Reasoning, Recommender Systems

HONORS & AWARD

SELECTED AWARDS

Wunsch Foundation Silent Hoist and Crane Award for excellence in a graduate student — Dept. of Mechanical Engineering, MIT	July 2024
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	Sept. 2017
Summa Cum Laude (Graduation Honors) — KAIST	Feb. 2017
Academic Honors Student — Dept. of Aerospace Engineering, KAIST	Mar. 2015

Daishin Songchon Scholarship (Full Tuition Award)	2023 F. – Present
SBS Scholarship (Full Tuition Award)	2022 F. – 2023 S.
Shangzhi Wu (1985) Fellowship	2022 F. – 2023 S.
Young-Han Kim Global Leader Scholarship — Awarded to one M.S. student at KAIST	2018 S. – 2018 F.
GE Foundation Scholar-Leaders Program — Administered by Fulbright and IIE	2014 S. – 2016 F.
Boeing Scholarship	2014 S. – 2016 F.
Samsung Electronics JFL Scholarship	2013 S. – 2016 F.
KAIST Presidential Fellowship — Awarded to top 10 students from the Class of 2017	2013 S. – 2016 F.

PUBLICATIONS

*Authors contributed equally.

Working Papers

1. **Describe-then-Diagnose: Test-Time-Scaled Reasoning for Reliable Zero-Shot Diagnosis**
   J.Y. Byun, Y.J. Park, N. Azizan, and R. Chellappa.
   Under review in *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2025.

2. **Quantifying the Reliability of Predictions in DETRs: Object-Level Calibration and Image-Level Uncertainty**
   Y.J. Park*, C. Sobolewski*, and N. Azizan.
   Under review in *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2025.

3. **Probabilistic Forecasting for Building Energy Systems using Time-Series Foundation Models**
   Y.J. Park, F. Germain, J. Liu, Y. Wang, T. Akino, G. Wichern, N. Azizan, C. Laughman, and A. Chakrabarty.
   Under review in *Applied Energy*, 2025.

4. **Uncertainty-Aware Meta-Learning for Analytically Tractable Posterior**
   Y.J. Park*, C. Almecija*, A. Sharma, and N. Azizan
   Under review in *Conference on Uncertainty in Artificial Intelligence (UAI)*, 2025.

Peer-Reviewed Publications

5. **Quantifying Representation Reliability in Self-Supervised Learning Models**
   Y.J. Park, H. Wang, S. Ardeshir, and N. Azizan.
   In *Conference on Uncertainty in Artificial Intelligence (UAI),* 2024 &
   In *RSS 2023 Workshop @ Safe Autonomy (Spotlight).*

6. **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. *(Full Paper, Acceptance rate: 9.77%)*

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.

8. **A Neural Process Approach for Probabilistic Reconstruction of No-Data Gaps in Lunar DEMs**
   Y.J. Park, and H.L. Choi.
   Aerospace Science and Technology, 2021.

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.

10. **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)*

11. **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

12. **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.

13. **Deep Gaussian Process-Based Bayesian Inference for Contaminant Source Localization**
    Y.J. Park, P.M. Tagade, and H.L. Choi.
    IEEE Access, 2018.

14. **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.

Technical Reports and Workshop Papers

15. **One4all User Representation for Recommender Systems in E-commerce**
    K. Shin, H. Kwak K.M. Kim, M. Kim, Y.J. Park, J. Jeong, and S. Jung

16. **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)

17. **VQ-AR: Vector Quantized Autoregressive Probabilistic Time Series Forecasting**
    K. Rasul, Y.J. Park, M. Ramström, and K.M. Kim.

18. **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.

19. **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.

20. **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.

SELECTED PRESENTATIONS

@MERL: *Towards Time-Series Foundation Models for Modeling Building Disturbance Inputs*	Aug. 2024
@NAVER Cloud: *Quantifying the Reliability in Foundation Models*	Feb. 2024
@MIT-IBM Watson AI Lab: *Representation Reliability and Its Impact on Downstream Tasks*	June 2023
@NAVER DEVIEW 2021: *The secrets Behind NAVER's Demand Forecasting: HyperCLOVA*	Nov. 2021

MENTORSHIP

Bryan Jangeesingh and Mimi Lohanimit (MIT), 2025
· *Project: Uncertainty quantification in vision-language-action models*.

Carson Sobolewski (University of Florida, summer intern at MIT), 2024
· *Project: Uncertainty quantification in object detection Transformer*.

Frédéric Odermatt (ETH Zürich MSc, intern at NAVER CLOVA), 2021-2022
· *Project: A large-scale deep forecasting models (published a paper in ICDM 2022).*

Donghyun Kim (Seoul National University, intern at NAVER CLOVA), 2021-2022
· *Project: An ensemble framework for demand forecasting (published a paper in ICDM 2022).*