

TaeHo Yoon

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Education

- 18– Seoul National University (SNU),
 Ph.D. in Mathematical Sciences.
 Advisor: Ernest K. Ryu.
- 14–18 Pohang University of Science and Technology (POSTECH),
 B.S. in Mathematics, Summa Cum Laude (GPA: 4.13/4.3).
- 11–14 Korea Science Academy of KAIST.

Work Experiences

- 21 Applied Scientist Summer Intern, AI Vertical Services, Amazon AWS.

Research Interests

Optimization for ML, Deep learning theory, and Robust & Reliable ML.

Publications

- Accelerated Minimax Algorithms Flock Together. **T. Yoon** and E. K. Ryu, *Manuscript*.
 - Theoretical work on minimax optimization.
- Robust Probabilistic Time Series Forecasting. **T. Yoon**, Y. Park, E. K. Ryu, and Y. Wang, *AISTATS*, 2022.
 - Work on adversarial robustness in the context of time series forecasting.
 - Based on internship project at AI Vertical Services, Amazon AWS.
- Accelerated Methods for Smooth Convex-Concave Minimax Problems with $\mathcal{O}(1/k^2)$ Rate on Squared Gradient Norm. **T. Yoon** and E. K. Ryu, *ICML*, 2021.
 - **Long presentation: Top 166/5513=3%** of submitted papers.
 - Theoretical work on minimax optimization.
- WGAN with an Infinitely Wide Generator Has No Spurious Stationary Points. A. No, **T. Yoon**, S. Kwon, and E. K. Ryu, *ICML*, 2021.
 - Theoretical work on the training of generative adversarial networks.
- Joint Transfer of Model Knowledge and Fairness Over Domains Using Wasserstein Distance. **T. Yoon**, J. Lee, and W. Lee, *IEEE Access*, 2020.
 - Work on fair machine learning.

Fellowships and Awards

- Youlchon AI Star Fellowship, 2022.
 - Offered by Youlchon Foundation of Nongshim (농심그룹 올촌재단) to promising Ph.D candidates from Seoul National University within the field of AI.
- Global PhD Fellowship (GPF), 2019–present.

- Offered by National Research Foundation of Korea to promising Ph.D candidates on the basis of research proposal (\$100,000 grant over 5 year period.)
- Program for Highly Dedicated Students (PHDS), 2014–18.
 - Fellowship offered by POSTECH to selected top-rank students.
- National Scholarship for Science and Engineering, 2014–18.
- Korean Mathematical Olympiad (Gold medal), 2009.

Academic Experiences

- Presentation of research works at:
 - International Conference on Machine Learning (ICML), Korean Society for Industrial and Applied Mathematics, Korean Mathematical Society.
- Teaching assistant at SNU for the courses including:
 - Mathematical and Numerical Optimization, Mathematical Algorithms, Introduction to Mathematical Analysis, Modern Algebra, Engineering Mathematics, Calculus.
- Undergraduate teaching assistant at POSTECH, Fall 2017.
 - Honored position assigned to selected students.
- Undergraduate mentor in Student Mentorship Program at POSTECH.
 - Participated for 5 semesters. Aided fellow students' study of math courses, including: General Topology, Introduction to Differential Geometry, Analysis, Modern Algebra, and Applied Linear Algebra.

Other Experiences & Miscellaneous

- Served as peer reviewer at AISTATS 2022 (top reviewer).
- Participated in International Quant Championship by WorldQuant in 2018.
 - Ranked within Top 10 teams in Korea.
- Exchange student at University of Wisconsin-Madison, Spring 2017.
- Diversified coursework oriented towards applications, including:
 - Machine Learning, Multivariate Statistical Analysis, Cryptography, Probability Theory, Mathematical Algorithms, Mathematical Statistics.
- Basic experience in Python, Matlab, C++ and C.
- International summer school experiences:
 - Modern Mathematics International Summer School for Students in 2014,
 - International Science Summer Institute at Weizmann Institute in 2013.