Taedong (Ted) Yun

tedyun@alum.mit.edu
tyun.io/linkedin
tyun.io/scholar
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Experience

Google DeepMind 2024-present (1 yrs)
Senior Research Engineer
- Research areas: Autonomous agents with a focus on agent architecture, personalization, long-term adaptation, evaluation, and user modeling. AI for healthcare and medicine.

Google 2018-2024 (6 yrs)
Senior Research Software Engineer
Google Brain, Google Health, and Google Research. Genomics team, Health AI.
- Research areas: Machine learning and its applications in genetics, biology, medicine, and healthcare.

Oracle 2013-2018 (5 yrs)
Senior Member of Technical Staff
Data Visualization, Data Analytics, and Cloud Analytics team.

4-58th Airfield Operations Battalion, Eighth United States Army 2006-2008 (2 yrs)
Air Traffic Controller (KATUSA Sergeant)
- Military service in a U.S. Army Garrison in South Korea as Korean Augmentation to the United States Army.

Education

Massachusetts Institute of Technology (MIT) 2008-2013
Ph.D. in Mathematics, advised by Richard P. Stanley. Research area: Algebraic combinatorics.
- Thesis: Diagrams of affine permutations and their labellings.

Korea Advanced Institute of Science and Technology (KAIST) 2003-2008
B.S. in Mathematics, *Summa cum Laude*. GPA: 4.17/4.3 (98.55/100).

Harvard University 2004
Summer school, 8-credit undergraduate courses. GPA: 4.0/4.0.

Selected Publications

Sleepless Nights, Sugary Days: Creating Synthetic Users with Health Conditions for Realistic Coaching Agent Interactions, *ACL (Association for Computational Linguistics)*, 2025. First & corresponding author.

Unsupervised representation learning on high-dimensional clinical data improves genomic discovery and prediction, *Nature Genetics*, 2024. First & corresponding author.

DeepConsensus improves the accuracy of sequences with a gap-aware sequence transformer, *Nature Biotechnology*, 2023. Contributing author.

Evaluating unsupervised disentangled representation learning for genomic discovery and disease risk prediction, *International Conference on Machine Learning Workshop on Computational Biology*, 2023. Sole author.

Underspecification presents challenges for credibility in modern machine learning, *Journal of Machine Learning Research*, 2022. Contributing author.

DeepNull models non-linear covariate effects to improve phenotypic prediction and association power, *Nature Communications*, 2022. Contributing author.

Accurate, scalable cohort variant calls using DeepVariant and GLnexus, *Bioinformatics*, 2021. First author.

A population-specific reference panel for improved genotype imputation in African Americans, *Communications Biology*, 2021. Co-first author.

SLOE: A faster method for statistical inference in high-dimensional logistic regression, *Advances in Neural Information Processing Systems* (NeurIPS), 2021. Contributing author.

Balanced labellings of affine permutations, *Discrete Mathematics and Theoretical Computer Science Proceedings* (International Conference on Formal Power Series and Algebraic Combinatorics), 2013. Equal author.

Rainbow graphs and switching classes, *SIAM Journal on Discrete Mathematics*, 2013. Equal author.

Diagrams of affine permutations and their labellings, *Massachusetts Institute of Technology*, 2013. Doctoral thesis.

Patents

Representation learning models for improved genomics, WO2024054734A1, Google LLC, 2023.

Sequence error correction using neural networks, EP4360005A1, Google LLC, 2022.

Selected Honors & Awards

Best Scientific Breakthrough, Science Awards (Google Internal), Google 2022
- For DeepVariant & DeepConsensus projects.

Samsung Scholar, Samsung Foundation of Culture 2007-2013
- Granted full financial support for Ph.D. study.

Presidential Science Scholarship, Korea Science & Engineering Foundation 2003-2006
- Awarded by the President of South Korea, granted full financial support for undergraduate study.

Honor Scholarship, KAIST Department of Mathematics 2004-2006
- For highest GPA in the Department of Mathematics.

National High School Academic Competition, Korea University 2000
- Grand Prize (1st place) in Mathematics.

Certificates & Licenses

HMX Certificates, Harvard Medical School 2019-2020
- Completed fundamental medical school courses (Genetics, Biochemistry, Pharmacology, Immunology) and specialized courses (Cancer Genomics and Precision Oncology).

Coursera Cetificates, Coursera 2016-2022
- Completed online specializations and courses: Survival Analysis for Public Health (by Imperial College London), A Crash Course in Causality (by UPenn), Data Science (by Johns Hopkins), Reasoning, Data Analytics, and Writing (by Duke), Deep Learning (by DeepLearning.AI), etc.

Engineer Information Processing, Ministry of Science and ICT, South Korea.
- A government-qualified license/certificate for planning, analyzing, designing, implementing, testing, operating, and maintaining an information system.