

Geonwoo Cho

🏠 geonwoo.me 🎓 [Google Scholar](https://scholar.google.com/citations?user=Geonwoo) 🐙 github.com/Cho-Geonwoo ✉️ gwcho.public@gmail.com

RESEARCH INTEREST

Reinforcement Learning: Scalability, Offline-to-Online; Open-Ended Curriculum

EDUCATION

Gwangju Institute of Science and Technology Feb. 2019 – present
Candidate for B.S. in Electrical Engineering and Computer Science, Minor in Mathematics
Total: 4.0/4.5, Major: 4.1, Math: 4.21

University of California, Berkeley Jan. 2025 – Aug. 2025
Exchange Student funded by GIST, Studied Computer Science and Mathematics

Korea Science Academy of KAIST Mar. 2016 – Feb. 2019
High school diploma, Studied Astrophysics

RESEARCH EXPERIENCE

Statistics and Data Science, UCLA | *Advised by Prof. Yuhua Zhu* June. 2025 – present
• Designed a PDE-driven offline reinforcement learning algorithm for continuous-time decision-making problems.

Biostatistics, Berkeley | *Advised by Prof. Lexin Li* Jan. 2025 – present
• Developed an offline-to-online reinforcement learning framework to ensure stable performance transfer.

DataScience Lab, GIST | *Advised by Prof. Sundong Kim* April. 2024 – present
• Introduced a skill-based RL framework that balances exploration and skill diversity for downstream transfer.
• Unified transition error enhanced regret approximation and co-learnability in unsupervised environment design.
• Introduced a curriculum framework that leverages causal structure knowledge to optimize task sequences.
• Analyzed how credit assignment mechanisms enhance the scalability of reinforcement learning algorithms.

AITER Lab, GIST | *Advised by Prof. Hongkook Kim* Jun. 2020 – Dec. 2020
• Applied time series models to Total Electron Current data for earthquake prediction.

PUBLICATIONS

Annealing Bridges Offline and Online RL. Under review at ICLR 2026. **Geonwoo Cho**, Jaegyun Im, Doyoon Kim, Lexin Li.

Causal-Paced Deep Reinforcement Learning. *Reinforcement Learning Conference Workshop 2025* (oral). **Geonwoo Cho**, Jaegyun Im, Doyoon Kim, Sundong Kim.

TRACED: Transition-aware Regret Approximation with Co-learnability for Environment Design. *CoRL Workshop 2025*. Under review at ICLR 2026. **Geonwoo Cho**, Jaegyun Im, Jihwan Lee, Hojun Yi, Sejin Kim, Sundong Kim.

AMPED: Adaptive Multi-objective Projection for Balancing Exploration and Skill Diversification. *CoRL Workshop 2025*. Under review at ICLR 2026. **Geonwoo Cho***, Jaemoon Lee*, Jaegyun Im, Subi Lee, Jihwan Lee, Sundong Kim.

Evaluating Simplicial Normalization in Multi-Task Reinforcement Learning. *Korea Software Congress 2024* (poster). **Geonwoo Cho***, Subi Lee*, Jaemoon Lee.

Development of a Deep Learning-Based House-Tree-Person Test Analysis Model. *Korea Information Processing Society 2021* (poster). Seungjae Cho, **Geonwoo Cho**, Younguk Kim.

LSTM-based Earthquake Anomaly Detection Applied to Total Electron Current Data. *Korea Artificial Intelligence Conference 2020* (poster). **Geonwoo Cho**, Dongeon Park, Hongkook Kim.

TALKS

Dev Night, GIST
Feature Store Implementation for Real-Time Recommender Systems

Sep. 2024

WORK EXPERIENCE

- Team Learners** | *Machine Learning Software Engineer* Aug. 2023 – Jan. 2024
- Reduced stable diffusion models' inference time by employing graph optimization and quantization techniques.
- Match Group/Hyperconnect LLC** | *Machine Learning Software Engineer* Jun. 2022 – Jul. 2023
- Developed the transformer-based matchmaking system that handles 1K requests/sec (large-scale server model) with <0.001% downtime. The server model surpassed the previous in-house state-of-the-art model by increasing revenue 3%p and retention by 7%p.
 - Enhanced feature store performance, lowering p99 latency from 200ms to 150ms by altering database usage patterns and adopting Avro serialization.
- Business Canvas** | *Software Engineer* Dec 2021 – Jun. 2022
- Achieved 99.95% availability rate by introducing microservice architecture and enhancing observability.
- Algorima** | *Software Engineer* Dec 2020 – Jun. 2021
- Designed and implemented web/server services, and ml pipelining framework.

PATENT

- [Under Review] **Geonwoo Cho**, Jaegyun Im, Sejin Kim, Sundong Kim. TRACED: Transition-aware Regret Approximation with Co-learnability for Environment Design.
- [Under Review] **Geonwoo Cho**, Jaemoon Lee, Jihwan Li, Sundong Kim. Probabilistic Gradient Surgery Based Multi-Task Skill Learning System.
- [Under Review] **Geonwoo Cho**, Jaegyun Im, Doyoon Kim, Sundong Kim. Causal-Paced Deep Reinforcement Learning.

AWARDS AND HONORS

- AI Grand Challenge Korea Ministry of Science and ICT** Aug. 2021
Selected among top 20 teams; Secured government funding
- Dream AI Open Challenge (4th Prize) Korea Ministry of Science and ICT** Dec. 2020
- ICPC (Advanced to Seoul Regional) ACM** Jun. 2020
- Creative Convergence Competition “Gist President Award” (1st Prize) GIST** Dec. 2019
- Honors Scholarship GIST**

TEACHING

- Teaching Assistant** Feb. 2024 – Dec. 2025
Single Variable Calculus and Application / Machine Learning & Deep Learning
- PIUM** Sep. 2020 – Dec. 2020
Served as a volunteer mathematics tutor for middle school students

COURSEWORKS

- | | |
|-------------------------|--|
| Mathematics | Introduction to (Geometry, Linear Algebra, Analysis, Abstract Algebra), Calculus, Multivariate Calculus, Differential Equations, Elementary Number Theory, Information Theory, Probability and Statistics |
| Computer Science | Introduction to Algorithms, Object-Oriented Programming, Digital Design, Computer Architecture, System Programming, Database Systems, Signal and Systems, Programming Languages and Compilers, Machine Learning & Deep Learning, Artificial Intelligence, Advanced Large Language Model Agents |
| Science | Introduction to Astrophysics, Molecular Biology |

EXTRACURRICULAR EXPERIENCE

- Car Wash Love** | *Co-founder*
Launched the mobile app for the door-to-door car wash service
- Open Source Contributions**
Pytorch Geometric / Numba Llvmlite