Youngjae Cho

ML Research Engineer
Seoul, South Korea

leon5760@gmail.com
youngjae-cho.github.io
GitHub | Google Scholar

I study robust and data-efficient learning from imperfect supervision: preference optimization, active learning, Bayesian adaptation, and reinforcement learning.

EDUCATION

KAIST | M.S., Industrial & Systems Engineering — Mar 2022 - Feb 2024
Advisor: Il-Chul Moon

KAIST | B.S., Industrial & Systems Engineering — Mar 2017 - Feb 2022

SELECTED PUBLICATIONS

** Equal contribution.*

[1] **Learning Where It Matters: Geometric Anchoring for Robust Preference Alignment**
Youngjae Cho, Jongsuk Kim, Ji-Hoon Kim
NeurIPS 2026 | Accepted | First author [Paper]

Proposed a batch-conditioned adversarial anchor and anchor-gap reweighting for brittle preferences; improved AlpacaEval 2.0 LC win rate by 3.6 percentage points over SimPO (Mistral-7B).

[2] **Make Prompts Adaptable: Bayesian Modeling for Vision-Language Prompt Learning with Data-Dependent Prior**
Youngjae Cho, HeeSun Bae, Seungjae Shin, YeoDong Youn, Weonyoung Joo, Il-Chul Moon
AAAI 2024 | First author [Paper] [Code]

Developed Bayesian prompt adaptation with data-dependent priors and Wasserstein gradient flow for posterior inference, improving few-shot generalization under distribution shift.

[3] **Sharpness-Aware Active Learning**
Yoon-Yeong Kim*, **Youngjae Cho***, JoonHo Jang, Byeonghu Na, Yeongmin Kim, Kyungwoo Song, Wanmo Kang, Il-Chul Moon
ICML 2023 | Co-first author [Paper] [Code]

Co-developed sharpness-aware acquisition through pseudo-label-based perturbed-loss estimation, with a theoretical optimization bound; evaluated classification, detection, and domain-adaptive segmentation.

[4] **Beyond Scalar IoU: Structured Verification from Rollout Groups for Video Temporal Grounding**
Youngjae Cho, Won Young Jhoo, Jongsuk Kim
arXiv 2026 | Preprint | First author [Paper]

Introduced a group-conditioned verifier with an exact decomposition into IoU and a covariance correction; improved temporal grounding at every reported IoU threshold across five benchmarks.

RESEARCH EXPERIENCE

Pyler | ML Research Engineer — Oct 2025 - Present

- **Preference learning.** First-author GAPO research on local margin degradation under parameter perturbations; evaluated robustness to random and structured preference noise.
- **Structured verification.** First-author SUTURE research on group-conditioned rewards; analyzed verifier structure and trained temporal-grounding policies with GRPO.
- **Multimodal post-training.** Implemented rollout, preference loss, and training loop on Megatron-Bridge for Nemotron-Nano-12B-VL; designed SimPO preference data for video localization and content safety.
- **Auditable supervision.** Recovered decision trees from 299K reasoning traces; improved content-safety macro F1 from **0.777 to 0.857**.

Aiv Co. | ML Research Engineer — Mar 2024 - Oct 2025

- **Generative modeling.** Led background-aware diffusion research for scarce industrial anomalies; evaluated defect synthesis on MVTec-AD and LOCO and deployed it to improve production detector precision and recall.

KAIST | Graduate Research — Mar 2022 - Feb 2024

- **Statistical learning.** First-author APP and co-first-author SAAL research combining Bayesian inference, optimization, and active learning; evaluated adaptation under distribution shift and acquisition across classification, detection, and segmentation.

ADDITIONAL PUBLICATIONS

[5] **Background-Aware Defect Generation for Robust Industrial Anomaly Detection**
Youngjae Cho, Gwangyeol Kim, Sirojbek Safarov, Seongdeok Bang, Jaewoo Park
arXiv 2024 | Preprint | First author [Paper]

[6] **Improving Group-based Robustness and Calibration via Ordered Risk and Confidence Regularization**
Seungjae Shin, Byeonghu Na, HeeSun Bae, JoonHo Jang, Hyemi Kim, Kyungwoo Song, **Youngjae Cho**, Il-Chul Moon
ICML 2022 Workshop [Paper]
Workshop on Spurious Correlations, Invariance and Stability

[7] **Predict Sequential Credit Card Delinquency with VaDE-Seq2Seq**
Yeongmin Kim, **Youngjae Cho**, Hanbit Lee, Il-Chul Moon
IEEE SMC 2021 [Paper]

ACADEMIC SERVICE

ICML 2026
Gold Reviewer

NeurIPS 2026
Top Reviewer

AWARDS

NVIDIA Nemotron Hackathon
Winner, Track B | 2026

Team winner in Track B (Domain-Specialized Model).