<Professor Donghwan Lee's Lab.>

Machine Decision Intelligence and Learning Research Group (MDILRG)

■ **Contact information**

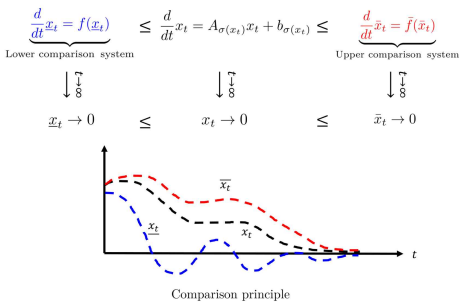
Email : donghwan@kaist.ac.kr
Lab.: N1 314

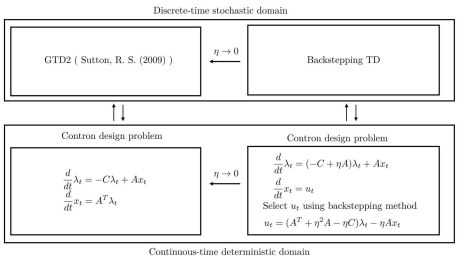
■ **Current state of the Lab. (in 2025 Spring Semester)**

Postdoctoral Fellows : 1 PhD Students: 7 Master's Student: 2

■ **Research Areas**

Development of advanced reinforcement learning algorithms, theory and applications, such as robots and self-driving cars, control theory and applications, machine learning algorithms, interplay among control, reinforcement learning, and optimization, optimization algorithms and theories.





■ **Recommended courses & Career after graduation**

Recommended courses: control system engineering, linear system, nonlinear system, optimal control, machine learning, reinforcement learning, probability theory, real analysis, measure theory

Career after graduation: national labs, start up, industry, silicon valley, academia

■ **Introduction to other activities besides research**

Domestic/International Conferences

Lab Seminar / Group Study

■ **Introduction to the Lab.**

Our research covers theory and application of control, machine learning, reinforcement learning, and interplay among them.

■ **Recent research achievements ('23~'25)**

Narim Jeong, Donghwan Lee*, "Finite-time analysis of minimax Q-learning," RLC2025

Hyeann Lee, Donghwan Lee*, "Suppressing overestimation in Q-learning through adversarial behaviors," Annual Allerton Conference on Communication, Control, and Computing, 2024

Narim Jeong, Donghwan Lee,* "Unified finite-time error analysis of soft Q-learning," Neurocomputing, 2025

Han-Dong Lim, Donghwan Lee*, "A primal-dual perspective for distributed TD-learning," IJCAI2025

Han-Dong Lim, Donghwan Lee*, "Regularized Q-learning," NeurIPS2024

Han-Dong Lim, Donghwan Lee, "Backstepping temporal-difference learning " ICLR2023

Donghwan Lee, Jianghai Hu, and Niao He, "A discrete-time switching system analysis of Q-learning," SICON, 2023