Deep Reinforcement Learning

Course Introduction

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Samsung Multicampus

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Class Information

Lecturer

- Name: Dongmin Lee
- Education:
  B.S. in Computer Science and Engineering from Hanyang University
- Experience:
  Research Intern in Robot Learning Lab, Seoul National University
- Talks:
  - Maximum Entropy Reinforcement Learning, KAERI, Ang 2019
  - Deep RL Summer 2019, Samsung, Jul 2019
  - Safe Reinforcement Learning, KARI, Aug 2018
  - Model-based Reinforcement Learning, 1st DLCAT, Jun 2018
- Leadership:
  Operator at "Reinforcement Learning Korea" facebook community
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Pre-requisite

- Basics of deep learning
- Basics of Python, Numpy
- Basics of a little mathematical knowledge

What We Will Cover

- (Day 1) Tabular-based methods:
  MDP, Dynamic programming, Policy iteration, Value iteration, Monte-Carlo method, Temporal Difference method, SARSA, Q-Learning

- (Day 2) Value-based methods & Policy-based methods:
  Deep Q-Network (DQN), Double DQN (DDQN), Policy gradient, Actor-Critic, Advantage Actor-Critic (A2C)

- (Day 3) Advanced actor-critic methods:
  Deep deterministic policy gradient (DDPG), Maximum entropy RL, Soft Actor-Critic (SAC), Tsallis Actor-Critic (TAC)

Any questions are welcome during classes!

Thank You!