Smart Mobile Platform
Syllabus

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- Objectives: **A.I. Techniques for Mobile Platforms**
- Hours/Location: 9am-12pm @ Engineering Building 366
- Instructor: **Joongheon Kim**
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- Contents
  - Deep Neural Network
  - Deep Reinforcement Learning
  - Inverse Reinforcement Learning and Imitation Learning
  - Federated Learning
  - Lyapunov Optimization

Class Schedule

Week	In-Classroom	Paper ID	ETC
01	Syllabus and Introduction		
02	Deep Neural Network (Basics – Regression/Classification)		
03	Deep Neural Network (Basics – Softmax/Neural Network)		
04	Deep Neural Network (Basics – CNN/GAN/Advanced)		DNN paper list will be posted.
05	Lyapunov Optimization		
06	No-Class		
07	Deep Neural Network (Paper Reading)		
08	No-Class		
09	Deep Reinforcement Learning (Basics)		DRL paper list will be posted.
10	Inverse Reinforcement Learning and Imitation Learning (Basics)		IRL/IL paper list will be posted.
11	Deep Reinforcement Learning (Paper Reading)		
12	Inverse Reinforcement Learning and Imitation Learning (Paper Reading)		
13	Federated Learning and Distributed Deep Learning Computation		
14	TBD		
15	Final Project Presentations		
16	No-Class		

- Grading Criteria
  - Paper Summary Note Submission → 40%
    - Paper presentation volunteers will get additional credits.
  - Take-Home Exam (midterm) → 20%
  - Take-Home Exam (final) → 30%
  - Final Project → 10%
    - Final project slide submission is mandatory.
    - Final project slide presentation opportunities will be given to selected students.

- Paper Summary Submission for Two Papers
  - Select one from following three.
    - **CycleGAN**, https://arxiv.org/abs/1703.10593
    - **StackGAN**, https://arxiv.org/abs/1612.03242
    - **StarGAN**, https://arxiv.org/abs/1711.09020
  - Select one from following two.
    - **Image Super Resolution**,
      https://arxiv.org/abs/1511.04587
    - **Neural Network Quantization**,
      http://www.jmlr.org/papers/volume18/16-456/16-456.pdf