MACHINE LEARNING

MACHINE LEARNING STUDY 2019 WINTER

PROCESS

Session 0

Introduce

- STUDY GOALS
- STUDY KEYPOINTS

Plan & Details

- STUDY DETAILS
- WEEKLY TASKS
- STUDY PLANS

QnA & Team Building

- Team Building
- FIX TOPICS
- QnA & NETWORKING TIME

INTRODUCE

STUDY GOALS

BASIC-EXPERT

MACHINE LEARNING STUDY 2019 WINTER

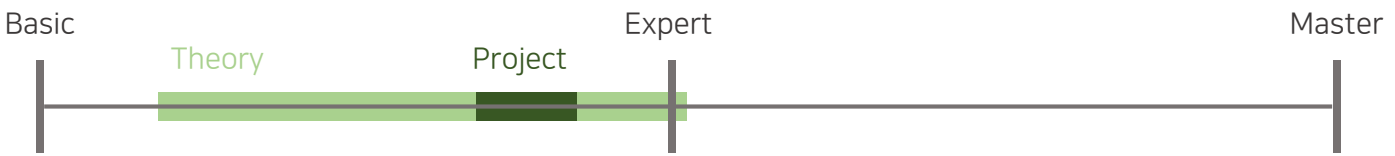
Machine Learning Basics and Utilization Study

Learning about the basic algorithm of machine learning

Acquire implementation capability based on theory or formula

Quick learning through project experience with machine learning algorithms

Overall Level



INTRODUCE

STUDY KEYPOINTS

GROUP STUDY

Group-based projects and learning presentations.

HOME WORK

Lecture summary and research homework of the lecture.

ONLINE CLASS

Online machine learning lecture.

WEEKLY MEETING

Weekly meeting on every Wed day.

PLAN

STUDY DETAILS

Presentation seminar

Presented once a week by team about Machine Learning Related Topics

Must implement code for each ML topics

Participants submit a preliminary search report about the topic bef ore the seminar

Team Project

Team-by-team project with machine learning algorithms

Designed as a 8 week project, share weekly progress

Mentoring feedback and progress on project progress

Team Study

Take online lectures on machine learning

Write a summary of the lecture and share it with team

Currently scheduled lecture (CS231N)

PLAN

WEEKLY TASKS

PERSONER TASK

Take the online Machine Learning Lecture

Submit summary of Lecture contents by online

Submit Preliminary research about topic of the next presentation

'Warning' if not submitted

3 warnings == expulsion

GROUP TASK

Prepare a topic presentation PPT Presentations should be written in English. (Assigned randomly presenter in team)

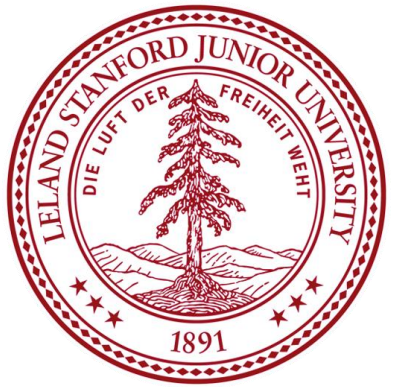
Preparing the project progress presentation

'Warning' to all team member if not prepared

3 warnings == expulsion

PLAN

About Online Lecture



http://cs230.stanford.edu/

Fall 2018 offering of CS 230 From Stanford Univ
by ANDREW NG

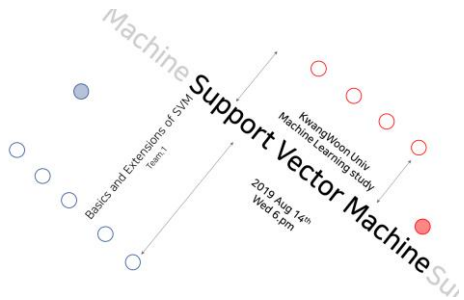
http://cs231n.stanford.edu/

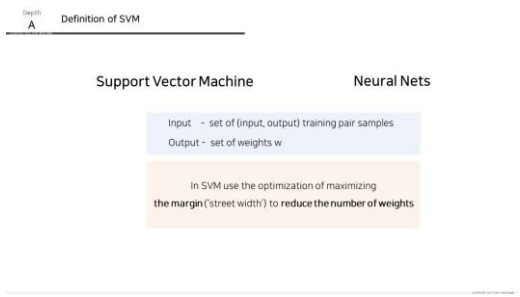
Convolutional Neural Networks for Visual Recognition

https://www.youtube.com/playlist?list=PL3FW7Lu3i5JvHM8ljYj-zLfQRF3EO8sYv

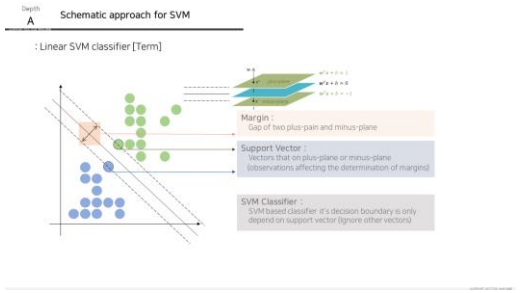
EXAMPLE

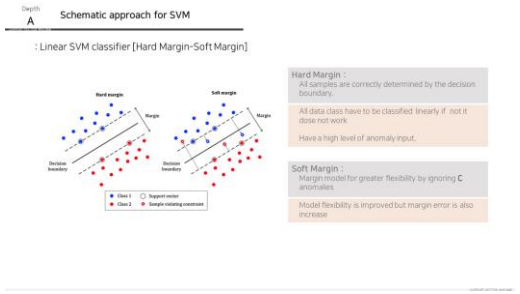
Section PPT





< Intro >





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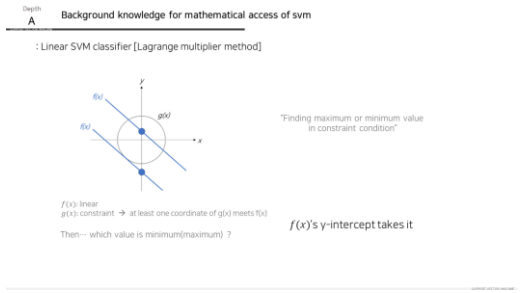

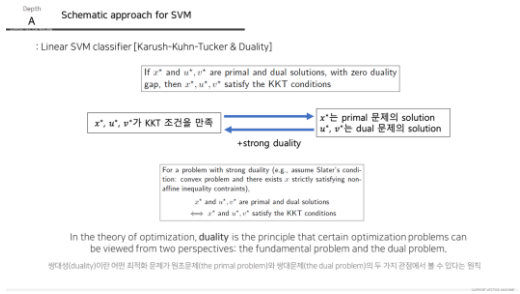

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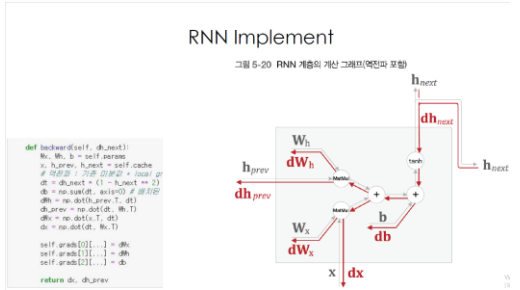
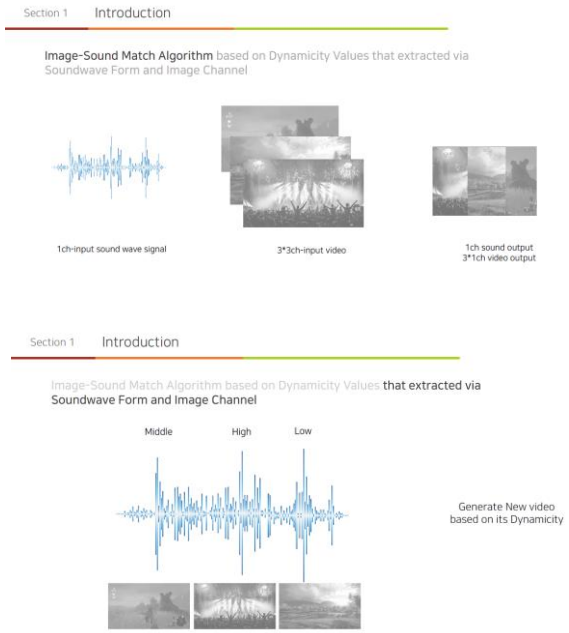


< Implement >

EXAMPLE

Progress PPT & Weekly Assignment



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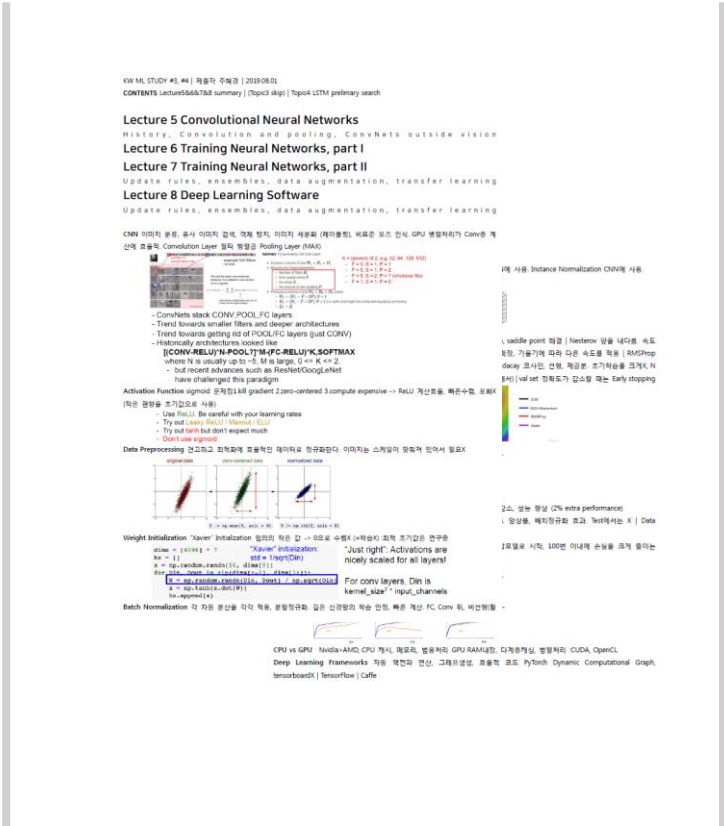
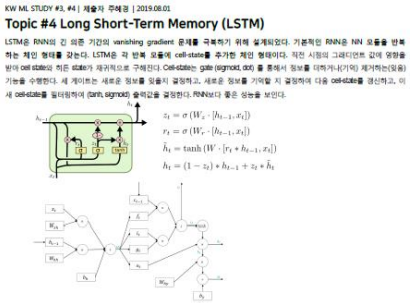


< Lecture Summary >



<Preliminary research>

PLAN

STUDY PLANS

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18 Meetup #0	19	20	21
22	23	24 Meetup #1	25	26	27	28
29	30	31 Meetup #2	1	2	3	4

Lecture #1, #2
(2Hour)

CS230

Lecture #3, #4
(2Hour)

CS230

Dec

Meetup#0

→ Introduce Study
→ Team-Building & Set Topic

Meetup#1

→ Basic of Machine Learning(1) by Yi
→ Topic Presentation #1- CNN

Meetup#2

→ Basic of Machine Learning(2) by Baek
→ Topic Presentation #2- LSTM
→ Pre-conference about Project

PLAN

STUDY PLANS

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	31 Meetup #2	1	2	3	4
5	6	7	8 Meetup #3	9	10	11
12	13	14	15 Meetup #4	16	17	18
19	20	21	22 Meetup #5	23	24	25
26	27	28	29 Meetup #6	30	31	1

Lecture #5, #6 (2Hour)	Lecture #7, #8 (2Hour)	Lecture #9, #10 (2Hour)	Lecture #1, #2 (2Hour)
CS230	CS230	CS230	CS231n

Jan

Meetup#3

→ Topic Presentation #3- Auto Encoder
→ Project Progress sharing (1/8)

Meetup#4

→ Topic Presentation #4 - Support Vector Machine
→ Project Progress sharing (2/8)

Meetup#5

→ Topic Presentation #5 – Random Forest
→ Project Progress sharing (3/8)
→ Intermediate check of study and project

Meetup#6

→ Topic Presentation #6-DQN
→ Project Progress sharing (4/8)

PLAN

STUDY PLANS

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29 Meetup #6	30	31 Meetup #4	1
2	3	4	5 Meetup #7	6	7	8
9	10	11	12 Meetup #8	13	14	15
16	17	18	19 Meetup #9	20	21	22
23	24	25	26 Meetup #10	27	28	29

Lecture #3, #4 (2Hour)	Lecture #5, #6 (2Hour)	Lecture #7, #8 (2Hour)	Lecture #9, #10 (2Hour)
CS231n	CS231n	CS231n	CS231n

Feb

Meetup#7

→ Topic Presentation #7 - DDPG
→ Project Progress sharing (5/8)
→ Intermediate check of study and project

Meetup#8

→ Topic Presentation #8 – Bayesian Optimization
→ Project Progress sharing (6/8)

Meetup#9

→ Topic Presentation #9 - Hidden Markov Model
→ Project Progress sharing (7/8)

Meetup#10

→ Topic Presentation #10 - GAN
→ Project Progress sharing (8/8)

Team-Building

TOPICS

- Topic Presentation #1 - Convolution Neural Network [CNN]
- Topic Presentation #2 - Long Short Term Memory [LSTM]
- Topic Presentation #3 - Auto Encoder [AE]
- Topic Presentation #4 - Support Vector Machine [SVM]
- Topic Presentation #5 - Random Forest [RF]
- Topic Presentation #6 - Deep Q-Networks [DQN]
- Topic Presentation #7 - Deep Deterministic Policy Gradient [DDPG]
- Topic Presentation #8 - Bayesian Optimization [BO]
- Topic Presentation #9 - Hidden Markov Model [HMM]
- Topic Presentation #10 - Generative Adversarial Networks [GAN]

Easy  Hard

TOPICs	TOPIC 1	TOPIC 2	TOPIC 3	TOPIC 4	TOPIC 5	TOPIC 6	TOPIC 7	TOPIC 8	TOPIC 9	TOPIC 10
Team	C	B	A	C	B	A	A	B	A	C

Team-Building

Team Build

TEAM A	백수환	이지운	권지윤	배석민
TEAM B	이충섭	이원빈	이종수	
TEAM C	서유정	김광호	이현빈	

Topic distribution

Each team will be prepared to present their topic for the week.

If you are not an presentation team, please fill out and submit a preliminary report.

TOPICs	TOPIC 1	TOPIC 2	TOPIC 3	TOPIC 4	TOPIC 5	TOPIC 6	TOPIC 7	TOPIC 8	TOPIC 9	TOPIC 10
Team	C	B	A	C	B	A	A	C	A	B

QnA

QnA

STUDY MEMBER

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