

know
the
rules

Course Logistics
Sep 14th, 2017



Machine Learning and
Having it Deep and Structured

HUNG-YI LEE



[HTTP://MLDS.MIULAB.TW](http://mlDS.MIULAB.TW)



國立臺灣大學
National Taiwan University

Course Logistics

MACHINE LEARNING AND HAVING IT DEEP AND
STRUCTURED AKA APPLIED DEEP LEARNING

APPLIED DEEP LEARNING AKA MACHINE LEARNING
AND HAVING IT DEEP AND STRUCTURED

Course Logistics

Instructors

- 李宏毅 Hung-Yi Lee
- 陳縉儂 Yun-Nung (Vivian) Chen

Time:

- Monday, 14:20-17:20 / Location: 資工101
- Thursday, 09:10-12:10 / Location: 電二106

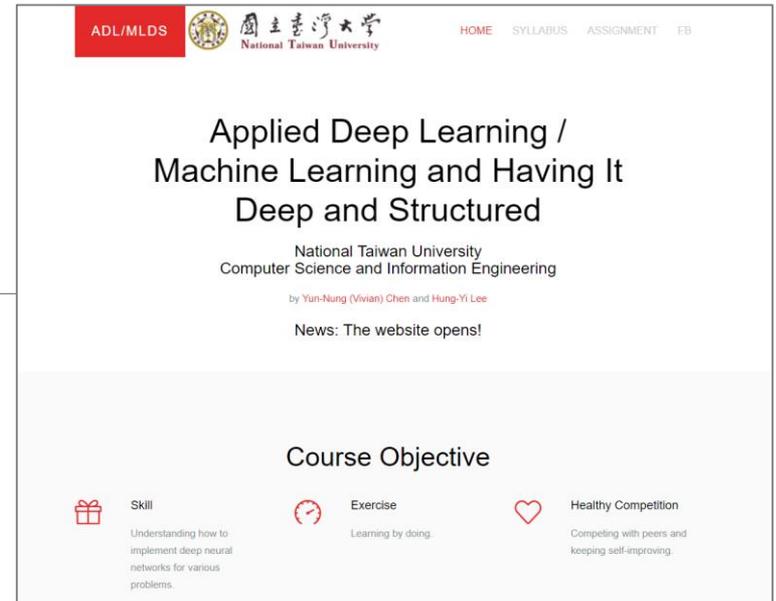
Website: MLDS.MIULAB.TW, ADL.MIULAB.TW

Slides uploaded before each lecture

Always check the up-to-date information from the website

FB group: ADLxMLDS (2017,Fall)

- <https://www.facebook.com/groups/1856571231300201/>



Course Goal

The students are expected to understand

1. how deep learning works
2. how to frame tasks into learning problems
3. how to use toolkits to implement designed models, and
4. when and why specific deep learning techniques work for specific problems

Pre-requisites

Course

- Required: college-level calculus, linear algebra
- Preferred: probability, statistics

Programming

- proficiency in Python; all assignments will be in Python
- GitHub; all assignments will be handed in via GitHub
- Kaggle; all assignments will be submitted to Kaggle



([tutorial](#) from Stanford)



([tutorial](#))



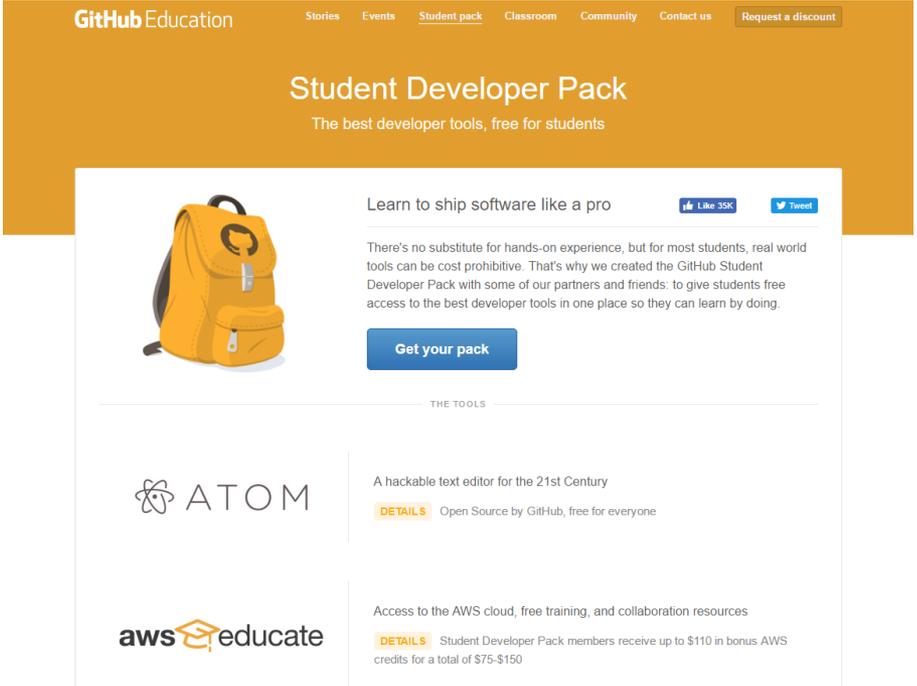
([website](#))

GPU resources are LIMITED, so please consider your available resources for taking this course

GitHub Student Pack

The [student plan](#) provides unlimited private repositories

- make your assignments private before the due date
- make them public afterwards



The screenshot shows the GitHub Education website's page for the Student Developer Pack. The page has a dark orange header with the GitHub Education logo and navigation links: Stories, Events, Student pack, Classroom, Community, Contact us, and a Request a discount button. The main heading is "Student Developer Pack" with the subtitle "The best developer tools, free for students". Below this is a white content area featuring a yellow backpack icon with a GitHub logo. To the right of the icon, the text reads "Learn to ship software like a pro" with "Like 35K" and "Tweet" buttons. A paragraph explains that the pack provides free access to developer tools for students. A blue "Get your pack" button is positioned below the text. Underneath, a section titled "THE TOOLS" lists two items: "ATOM" (A hackable text editor for the 21st Century) and "aws educate" (Access to the AWS cloud, free training, and collaboration resources). Each item includes a "DETAILS" link and a brief description of the benefits.

Grading Policy



4 Individual Assignment: $18\% \times 4 = 72\%$

- Kaggle submission, GitHub code w/ README
 - The score is given based on the ranking list
 - Bonus points for outstanding performance
 - **Late policy: 25% off per day late afterwards**

Final Group Project: 25%

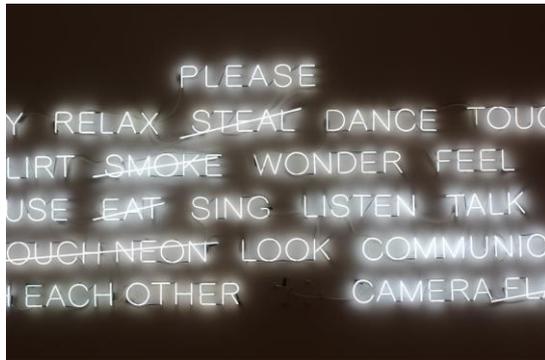
- GitHub code, Project document
 - Bonus points for the outstanding work

Others: 5%

- Write-up for the guest lecture

Understanding the difference between “collaboration” and “academic infraction”

Individual Assignments



A1. Sequence Labeling



A2. Caption Generation



A3. Game Playing



A4. Comics Generation

Final Group Project (2~5 persons)

Choose your preferred project topic

- Proposal (**BONUS!**): submit your proposal
 - Get additional bonus if other groups choose the same the proposed topics
- Presentation
 - Poster presentation
 - Outstanding projects will be selected for company-sponsored awards/prizes
- Project Report & Code
 - Wrap-up project report
 - GitHub code submission w/ README



The project details will be announced later

TEAM
WORK

How to Get the Registration Code?

Limit: ~100 students per course

Requirements

- Did not take ADL (Fall 2016) & MLDS (Spring 2017)
- Finish the assignment 0 by **Sep 17 (Sunday) 11:59AM**
 - A simple classification task
 - Announced in the website on Sep 14 (Thursday) noon
- Fill in the [Google Form](#)

Selection order if out of limit

- EECS Graduate = EECS (4-yr up) > EECS Others > Others



機器學習及其深層與結構化
科目流水號：
加選授權碼：
授課教師：李宏毅

深度學習及其應用
科目流水號：
加選授權碼：
授課教師：陳縉儂

High-Level Schedule

Week	Topic	Assignment
1 09/14/2017	Introduction	A0-Basics
2 09/21/2017	Neural Networks	
3 09/28/2017	Backpropagation + Sequence Modeling	
4 10/05/2017	Recurrent Neural Networks	A1-Sequence Labeling
5 10/12/2017	Company Workshop (Microsoft)	
6 10/19/2017	Guest Lecture (HTC)	A2-Caption Generation
7 10/26/2017	Word Embeddings	
8 11/02/2017	Gated Mechanism + Attention Mechanism	
9 11/09/2017	Convolutional Neural Networks	
10 11/16/2017	NN Practical Tips	A3-Game Playing
11 11/23/2017	Deep Reinforcement Learning	
12 11/30/2017	Guest Lecture (Dr. Gao from MSR)	
13 12/07/2017	Deep Reinforcement Learning	
14 12/14/2017	Unsupervised Learning	A4-Comics Generation
15 12/21/2017	Generative Adversarial Networks	
16 12/28/2017	Generative Adversarial Networks	
01/04/2018	Break	
17 01/XX/2018	Final Project Presentation	

Teaching Assistant Team



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Rules



Asking questions is encouraged!!

Any comment or feedback is preferred!!
(speed, style, etc)



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T.A

Going to TA hours!!