

Machine Learning Foundations

(機器學習基石)

Course Introduction, 09/20/2019

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Four Reasons for NOT Taking the Course (1/4)

Complicated Contents

- from a Taiwanese student taking MIT ML class (translated):
The professor started writing math equations as if he was using some writing accelerator. After class I always felt feeble. The worst part is: I needed to understand the contents as soon as I can. Otherwise I cannot finish the homework and cannot follow up in the next class.
- NTU ML class: designed to be **as good as** the best classes in the world
- similar things will happen to you

If you are not willing to be so **miserable**, ...

Four Reasons for NOT Taking the Course (2/4)

Strict Instructor

- Will you give me a second chance if I copy homework from other people? **NO**.
- Could you let me pass because I will be kicked out by the 1/2 rule? **NO**.
- Will you change my score from *F* to *C*? **NO**.
- How many will pass? **Any**, if necessary.

If you do not like a **strict** instructor, ...

Four Reasons for NOT Taking the Course (3/4)

Huge Loads

- from a student taking ML 2010 (posted on BBS):

lxxxxxx9: 作業光一小題就要我們test 100次?($100 * 10\text{min} = 16\text{hr}$) 唉 反覆檢查許多遍 希望是我的code寫壞了 不然出這作業的人真的很沒良心==

- our class: **four to six** times harder than a normal one in NTU
- **four** homework sets
- homework due within four weeks
- even have homework 0 **NOW**
 - already hard
 - though no need to submit

If you do not want to spend **so much time on homework**, ...

Four Reasons for NOT Taking the Course (4/4)

Online-learnable

- invited by NTU as two of the **Massive Online Open Courses** on NTU-Coursera: **Machine Learning Foundations** and **Machine Learning Techniques**
 - **slides** teaching
 - **Mandarin** teaching
 - **Youtube-synced** teaching
 - **“recorded” teaching mode**
- much **easier** to just learn online at home
—you can **choose to only take the online version instead**

If you do not want be **restricted by physical class**, ...

from a student in ML2013 (final feedback):
人活的好好的，爲什麼一定要修Machine Learning呢？XD 這是一門體驗各種崩潰、絕望的課程，人生能被課程電成這樣可能也就這麼一回

May the Brave Ones Stay

Basic Information

- instructor: Hsuan-Tien Lin (htlin@csie.ntu.edu.tw)
- office hour: after class or by appointment
- course webpage (CEIBA):
<https://ceiba.ntu.edu.tw/1081mlfound>
announcements, homework, reference handouts, etc.
- mailing list: supported by CEIBA
- discussion forum: TBA
- new: **two-hour credits**

**update your secondary email address on
CEIBA**

Enrollment

- **With school policy, students who have taken other versions is generally NOT allowed to take this class again!**
- target size 264, which is 150% of 176—assuming that 1/3 will not show up in class
- priority: CSIE (CSIE, INM) > EECS > others
- auditing: welcomed (to sit) only if there is an empty chair

Leave as soon as possible! Give your classmates a chance to be miserable.

Teaching Assistants

- Si-An Chen: Wednesdays 10:00–11:00, CSIE R536
- Wei-Chao Cheng: Mondays 10:00–11:00 CSIE R536
- Yu-Ying Chou: Tuesdays 13:00–14:00 CSIE R536
- Ming-Yen Chung: Tuesday 10:00–11:00 CSIE R502
- Sheng-Feng Wu: Thursdays 13:00–14:00 CSIE R536

THE Book

Learning from Data: A Short Course

Y. Abu-Mostafa (Caltech), M. Magdon-Ismail (RPI), H.-T. Lin (NTU)

- idea initiated during 2008
- 5 chapters, closely needed for this class
- teaching with the book and suggested reading within the book

Getting the Book to Read

- NTU Library: one reserved copy in the shared course material area
- R536: some shared copies to be read in the room
- Chuan-Hwa Book Company: imported some limited copies of the book
 - Ms. Jen Huang (jen@chwa.com.tw) at 0958-008-962
 - may or may not offer group discounts
- Amazon: main selling channel in the US, but can be expensive/slow for international shipping
 - <http://www.amazon.com/gp/product/1600490069>
- Amazon Kindle: yes, but **not recommended because of its sales price**
- **If the book is not affordable to you but you really want to read it: email me (htlin@csie.ntu.edu.tw) and I'll see how I can help.**

THE Principle

Taking any unfair advantages over other class members is not allowed. It is everyone's responsibility to maximize the level of fairness.

- eating? fine, but no smells and no noise
- sleeping? fine, but no snoring
- cellphone? fine, but silent mode, and speak outside
- ...

applies to instructor, TAs, students

Honesty

NO CHEATING

NO LYING

NO PLAGIARISM

NO PIRATING of THE BOOK

very serious consequences

Grade

- no midterm, no final
- main reference: homework sets
- raw score goes through some order-preserving normalization steps
 - raw score 80 with term rank A: possible
 - raw score 80 with term rank B: possible
 - raw score 60 with term rank F: possible
 - raw scores 80, 60 with term scores B, B: possible, but unlikely
 - raw scores 80, 60 with term scores F, B: **impossible**

Collaboration and Open-Book

- homework discussions: encouraged
- but fairness?
write the final solutions alone and understand them fully
- references (books, notes, Internet):
consulted, but **not copied from**
- no need to lend/borrow solutions

to maximize fairness (everyone's responsibility),
lending/borrowing not allowed

Homework

- students: justify solutions clearly
- TAs: evaluate solutions fairly
- penalty for late parts:
90% of value for 12-hour late, 80% one-day late, ...
- will grant each person six penalty-free late half-days (**gold medals**)

Programming Assignments

- about a third or half of the problems
- any programming language, any platforms
- upload **source code**, otherwise:
10% of value only!
- **no sophisticated packages**

students' responsibility:

ask TA in advance for what can/cannot be used

Important TODOs

- Update your secondary email address on CEIBA!
- Do homework 0

May the Brave Ones Stay

Questions?