

Machine Learning

(機器學習)

Course Introduction, 09/09/2026

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Five Reasons for NOT Taking the Course (1/5)

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**, ...

Five Reasons for NOT Taking the Course (2/5)

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, ...

Five Reasons for NOT Taking the Course (3/5)

Huge Loads

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

lxxxxxx9 (translated): only 1 problem requires running 100 test experiments? ($100 \times 10\text{min} = 16\text{hr}$); I double-checked multiple times—the one who designed this homework is **heartless**

- our class: **two to six** times harder than a normal one in NTU
- planning **six** homework sets (and final project)!
- homework due within 2 weeks in general
- will have homework 0 **this week**
 - already hard
 - very few points to remind you prerequisites

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

Five Reasons for NOT Taking the Course (4/5)

Online-learnable

- invited by NTU as two of the **Massive Online Open Courses** on NTU-Coursera: **Machine Learning Foundations** and **Machine Learning Techniques**, which cover 70% of what we'd teach
- much **easier** to just learn online at home—you can **simply take the recorded version**
- actually we will do **pseudo-flipped teaching**

If you want to **learn in your own pace**, ...

Five Reasons for NOT Taking the Course (5/5)

Shallow and Old-fashioned

- not a **deep** learning class—surround **shallow** (old) machine learning
- yes, many materials are **10+ years old**
- yes, **AI has knowledge of those materials**, just like **AI can do coding**

If you want to **chase newer buzzwords**, ...

from a student in ML2013 (final feedback, translated):
This is a class that makes you experience all kinds of
devastation and desperation.

May the Brave Ones Stay

Basic Information

- mode: physical, with live Youtube screencast + Slido (#HTML2026FALL) questions if everything goes smoothly



- instructor: Hsuan-Tien Lin (htlin@csie.ntu.edu.tw)
- office hour: after class, or by appointment
- public course infopage: <https://www.csie.ntu.edu.tw/~htlin/course/ml26fall/>
- semi-private course platform: NTU COOL, for announcements, recorded videos, etc.
- class chats: Discord (see NTU COOL for invitation URL)
- homework grading (registered students only): Gradescope (linked from NTU COOL)

be sure to check emails
from NTU COOL frequently

History of the Course

- 2008–2012: 3 credits, English-teaching
- 2013–2014: 3 credits, Mandarin-teaching (with MOOC)
- 2015: 4 credits, Mandarin-teaching (with MOOC)
- 2016–2020: mostly 2+2 credits (MLF+MLT), Mandarin-teaching (with MOOC)
- 2021 Fall, 2023 Spring: 3 credits, English-teaching
- 2023 Fall: 3 credits, Mandarin-teaching (with MOOC **offline** and **physical discussions stimulated by chatGPT**)
- 2024: 3 credits, English-teaching, TAICA
- 2026: 3 credits, Mandarin-teaching, TAICA + (MOOC **offline** and **discussions stimulated by chatGPT**)

discussions stimulated by chatGPT:

- many prefer watching recording **offline**
- encourage **speculation** instead of **lecturing** during precious class time

Three New Experiments this Semester (1/3)

cross-university teaching (2nd time)

- issue: Taiwan needs more **AI talents**
- accepted invitation from TAICA (Taiwan AI College Alliance) to offer this ML course to 50+ universities
 - thanks to MOE for **more TAs**
 - YouTube screencast to break the **time/space boundary**
 - some online TA hours (to be planned)

cross-university teaching: attempt to **further increase the impact** in this new AI age

Three New Experiments this Semester (2/3)

final exam

- issue: AI **can solve all your homework** with high success rate
- not a totally bad thing for teaching, but **fair grading becomes exponentially difficult**
- will experiment with (closed-book) final exam with **some similarity to homework**

final exam: an old-fashioned yet fair **grading protocol** before anything better is designed

Three New Experiments this Semester (3/3)

AI-assisted TAship

- issue: AI can answer many questions **with 90%+ correctness** in a friendly manner, now how to best help **learning**?
- building an AI agent to answer students' questions, guarded by **TAs' regular human checking**

AI-assisted TAship: **human-computer collaboration** towards better **teaching/learning**

Enrollment

- Per school policy, students who have taken other versions is generally NOT allowed to take this class again!
(ML Foundations, ML Techniques, and my 4-credit ML)
 - we won't check, but the school may
 - multiple taking may not appear nice on your transcript anyway
- signup link for NTU students on `https://www.csie.ntu.edu.tw/~htlin/course/ml26fall/`, to be processed progressively
- limited quota for Taiwan AI College Alliance students from other universities
- auditing: welcomed in general if no interference to official members (signup link for accessing NTU COOL also on `https://www.csie.ntu.edu.tw/~htlin/course/ml26fall/`)

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

Our 16 Teaching Assistants (thanks to NTU and TAICA)

`html_ta@csie.ntu.edu.tw`

- Cheng-Han Hsieh (*), CSIE
- Guan-Chen Chen, CSIE
- Chun-Yang Cheng, CSIE
- Sheng-Yuan Chang, CSIE
- Tsung-Lun Chiang, EE
- Ting-Chieh Chiu, CSIE
- Ting-Wei Chuang, CSIE
- Kang-Yu Fan, CSIE

- Yen-Hung Hsueh, EE
- Li-Cheng Hsu, EE
- Jung-Sheng Hung, GINM
- Yun-Shi Lee, IM
- Yi-Ting Lo, CSIE
- Han-Hwa Shih, GICE
- Yen-Chu Tsai, CSIE
- Yi-Ming Yao, Math

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 first part of the class
- other e-Chapters to be used in the second part of the class
- teaching with the book and suggested reading within the book

Getting the Book to Read

- NTU Library: reserved copy in shared course material area
- R536: some shared copies to be read in the room (if open)
- Chuan-Hwa Book Company: imported some copies of the book
—e.g. <https://www.books.com.tw/products/0010565319>
- Amazon/Kindle: main selling channel in the US
— <http://www.amazon.com/gp/product/1600490069>

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.

NO CHEATING

NO LYING

NO PLAGIARISM

NO PIRATING of THE BOOK

very serious consequences

Grade

- no midterm
- main reference: homework sets (30%) + final exam (30%) + final project (40%)
- raw score goes through some order-preserving normalization
 - raw score 80 with term rank A: 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**
- for non-NTU students, (tentatively) the rank will be converted by NTU metric back to a score between $[0, 100]$, and then your university will convert it back to the rank

Collaboration, Open-Book, and Open-AI

- homework discussions: encouraged
- but fairness?
write the final solutions independently and understand them fully
- references (books, notes, Internet [AI tools]):
can be consulted, but not copied from
- strongly encourage you to save your AI prompts and interaction logs
- no need to lend/borrow/sell/buy/trade solution/code/dialogue

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

Homework

- multi-choice problems for auto-grading
- upload photo-ed/scanned details and code for
 - selective grading by TAs (penalty if your details are not logical)
 - plagiarism detection
- penalty for late parts:
90% of value for 12-hour late, 80% one-day late, ...

will grant each person four penalty-free late
half-days (gold medals)

Programming Assignments

- about a quarter or third of the problems
- any programming language, any platforms, **any packages**
- AI-generated code: **okay if you co-wrote the code with AI, justified by your logs**

Final Project

- **teamed** in-class competition (team-size TBD)
- **co-run** with Prof. Shou-de Lin's "Machine Learning: Theory and Practice" class
 - **cannot take both classes this semester**
- will need you to sign and abide by **data policy**

can make you **rich**, if you know what I mean

Languages

- teaching: Mandarin
- Slido questions: English/Traditional Chinese/Simplified Chinese
- homework writing: English/Chinese
- TA hour/instructor hour: Mandarin/English-welcomed

don't be afraid of English

Questions?



Slido: #HTML2026FALL