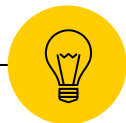


Applied Deep Learning

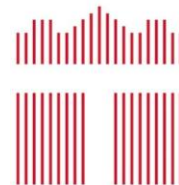


Course Logistics



September 7th, 2026

<http://adl.miulab.tw>

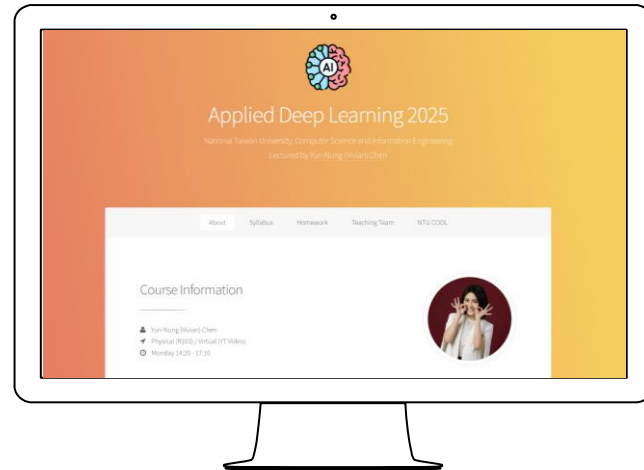


National
Taiwan
University
國立臺灣大學

Course Logistics

- Instructor: 陳縉儂 Yun-Nung (Vivian) Chen
- Time: Monday 14:20-17:10
- Location
 - Virtual: YouTube & COOL
 - Physical: R103
- Website: <http://adl.miulab.tw>
- NTU COOL: <https://cool.ntu.edu.tw/courses/64983>
- Slido: #ADL2026
- Email: adl-ta@csie.ntu.edu.tw
 - To ensure timely response, email title should contain “[ADL2026]”
 - Do NOT send to our personal emails

Always check the up-to-date information from COOL



NTU COOL for Digital Learning

- NTU COOL
 - Lecture videos
 - Comments anytime
 - Assignment submission
- Slido QA
 - #ADL2026
- TA Team
 - Forum discussion (preferred)
 - Email QA
 - TA recitation/hours (maybe virtual)

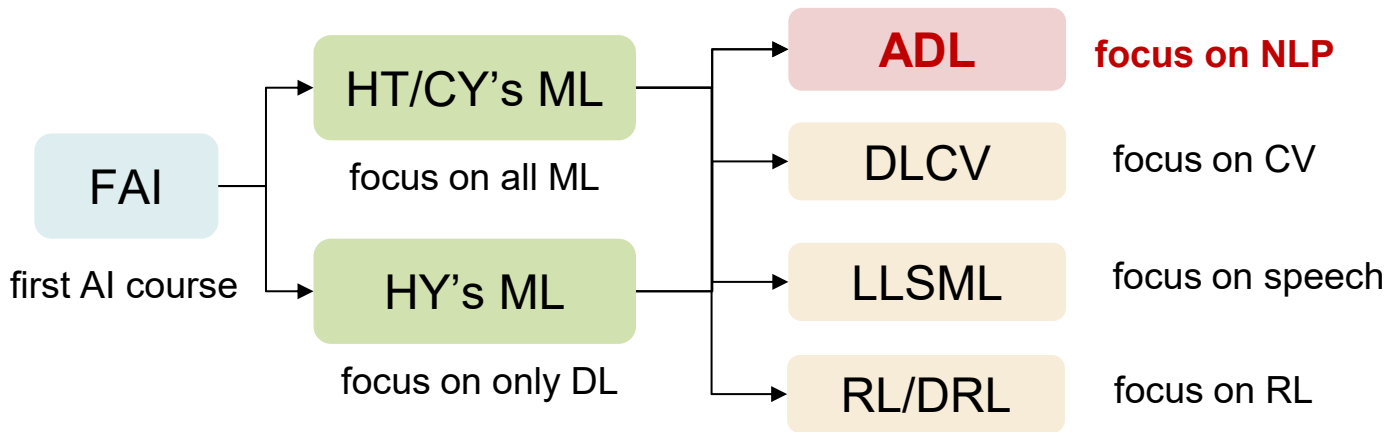


Course Goal

- ◎ The students are expected to understand
 1. how deep learning works
 2. how to frame tasks into learning problems
 3. how to use tools (or AI) to implement designed models
 4. how to utilize pre-trained models, and
 5. when and why specific learning techniques work for specific problems

Related Courses

- 陳尚澤+陳縉儂, “Fundamental of Artificial Intelligence (FAI)”
- 林軒田/李濬屹/李宏毅, “Machine Learning (ML)”
- 李宏毅, “Large Language and Speech Model Technologies (LLSML)”
- 孫紹華, “Reinforcement Learning (RL)”
- 李濬屹, “Deep Reinforcement Learning (DRL)”
- 王鈺強, “Deep Learning for Computer Vision (DLCV)”



Deep Learning for NLP



Covered topics by lecturers

- DL Basics
- Language Representations
- Language Modeling
- Transformer
- Classic Training + Inference
- Pre-training + Fine-Tuning
- Pre-training + Prompting
- Issues in NLP

TA recitation

- Dev Infra & Tooling (Colab, GPU, PyTorch)
- DL Workflow
- Huggingface Basics
- LLM Architecture
- LLM Evaluation
- LLM Training
- LLM Inference



Pre-requisites

Course

- Required: college-level calculus, linear algebra
- Preferred: probability, statistics, foundations of artificial intelligence

Programming

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



([tutorial](#) from Stanford)

GitHub

([tutorial](#))



Hugging Face

([tutorial](#))

Please consider your available resources for taking this course

Google Gemini： 免付費使用學生方案 1 年

運用 Gemini 讀書，可以無限上傳自己的課堂教材、學習筆記、互動式視覺化內容，還能使用 Gemini Live。透過免費學生方案，甚至可以享有更高的用量上限和 400 GB 儲存空間，並使用 Gemini Omni 影片生成功能，為期 1 年。

申請免付費學生方案

<https://gemini.google/students/>
<https://chatgpt.com/students/2026/>

[About](#)[Features](#)[Learn](#)[Codex](#)

Student offer

Study. Build. Launch. Get 4 months of ChatGPT Work on us.

An \$80 value for eligible U.S. college students. Claim by October 31.

Claim free offer

Remind me later

Grading Policy



- 3 Individual Assignment: 60%
 - Code w/ README, Report
 - The score is based on **performance** and the **report**
 - **Late policy: 25% off per day late afterwards**
- Final Project (Individual): 35%
 - Code w/ README, Project Report
 - Final presentation (format TBA)
- Others: 5%
 - Write-up for the special events **(today!)**

Understanding the difference between “collaboration” and “academic infraction”
Adding suitable references / citations (including LLMs) in your reports

Collaboration vs. Academic Infraction

☉ CAN

- ask LLMs (ChatGPT, Gemini, etc) and add references
- use code from public repos and add references
- discuss with peer and add references

☉ CANNOT

- check **code** or **report** from prior or current students
- use external materials but *no references*

2022 ADL Fall



台大資訊 深度學習之應用 | ADL
Assignment Plagiarism Announceme...



Assignments & Final Project (Individual)

Final project: multi-agent game

Sales agent



A1: Transformer/ BERT for user state prediction



A2: RAG for product knowledge access

Customer agent



A3: LM fine-tuning for tool-calling



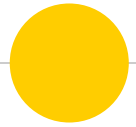
Tentative Schedule

Virtual

Physical

No Course

Week	Topic	TA Recitation	Assignment
自學 / 先修	Introduction, NN Basics, Backpropagation		
1 2026/09/07	Course Logistics, Sequence Modeling	PyTorch, Debugging	A0 – Basics
<i>Guest Lecture – Dr. Eugene Yang (JHU)</i>			
2 2026/09/14	Attention, Transformer, BERT	DL Workflow	A1 – BERT
彈性補充	Word Representations, Tokenization, BERT Variants		
3 2026/09/21	Pre-Training, Prompt Learning	HuggingFace Tutorial	
4 2026/09/28	教師節 Break		
5 2026/10/05	Retrieval-Augmented Generation	LLM Architecture	A2 – RAG
6 2026/10/12	Adaptation, Post-Training		
7 2026/10/19	NLG Decoding, NLG Evaluation	LLM Inference & Eval	A3 – LM Tuning
8 2026/10/26	台灣光復 Break		
9 2026/11/02	Final Project Announcement	LLM Deployment	Final Project
10 2026/11/09	Alignment: Safety, Fairness, Factuality		
11 2026/11/16	Language Agents		Check point 1
12 2026/11/23	Human-AI Interaction		
13 2026/11/30	Personalization, Reasoning		Check point 2
14 2026/12/07	Knowledge, Multimodality		
15 2026/12/14	Final Project Due		



Teaching Assistant Team



Rules



Asking questions is encouraged!!

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

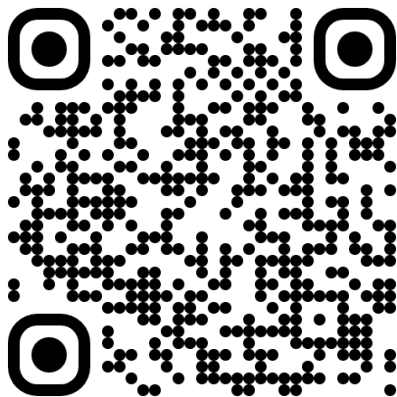


**I
♥
T.A**

Attending TA hours!! (details TBA)

Course Registration

1. Fill in the form by **Sep 13th (Sun)**
 2. Receive code if you are qualified before **Sep 18th (Fri)**
 3. Ensure to finish enrollment asap
- *Deadline: **Sep 21st (Mon) 23:59**



F115-ADL 深度學習之應用 加簽表單

若對本課程有興趣修習的同學，請填寫以下表單，教學團隊會根據狀況，在第一周分發完給可以加簽的同學用授權碼的方式加簽。(本加簽表單將於 9/13 晚上關閉，第二周會盡快告知同學是否加簽成功)

本課程的規劃可見外部課程網站 <http://adl.miulab.tw>，本課程有部分內容是以線上的方式進行 (非同步影片形式)。本課程內容緊湊且作業時程短，建議同學需要好好考量自己的時間與自制力。

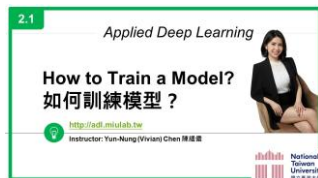
注意！第一周課程會說明本課程整個學期完整的規劃、教學內容、評分標準等細節，供大家判斷自己是否適合修習本課程。要加簽的同學務必至 [課程網站](#) 找作業0的影片連結 (Intro, NN Basics & Backprop [1.1](#), [1.2](#), [1.3](#), [2.1](#), [2.2](#), [2.3](#), [2.4](#), [2.5](#)) 完成後才填寫表單喔！

Course Schedule 課程規劃

Week	Topic	TA Recitation	Assignment
自學 / 先修	Introduction, NN Basics, Backpropagation		
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14 2026/12/07	Knowledge, Multimodality		
15 2026/12/14	Final Project Due		

Important! Homework 0

- You MUST finish HW0 in order to enroll in this course
- Online lectures
 - Introduction [1.1] [1.2] [1.3]
 - NN Basics [2.1] [2.2] [2.3] [2.4]
 - Backpropagation [2.5]





Thanks!

Any questions ?

You can find the course information at

- <http://adl.miulab.tw>
- adl-ta@csie.ntu.edu.tw
- slido: #ADL2025
- YouTube: Vivian NTU MiuLab