

112-1 Course Requirements of Artificial Intelligence

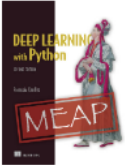



Prof. Kuan-Ting Lai

2023/9/14

Web (www.aiotlab.org/teaching/ai_ee.html)

ARTIFICIAL INTELLIGENCE 人工智慧

 Taipei Tech EE AI  112 Videos  半小時學AI  111影片

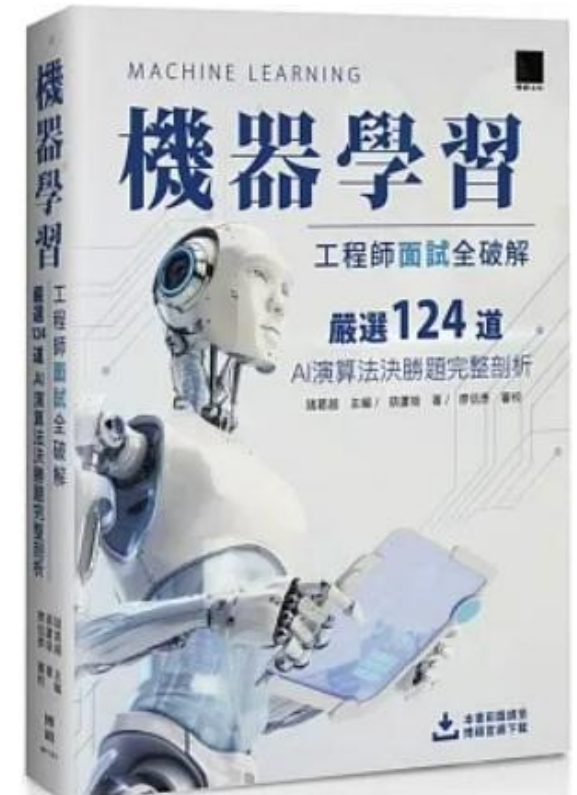
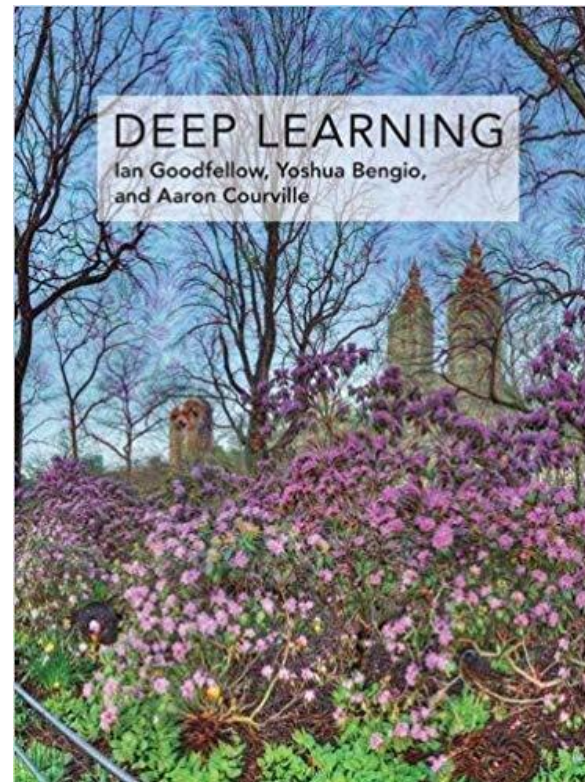
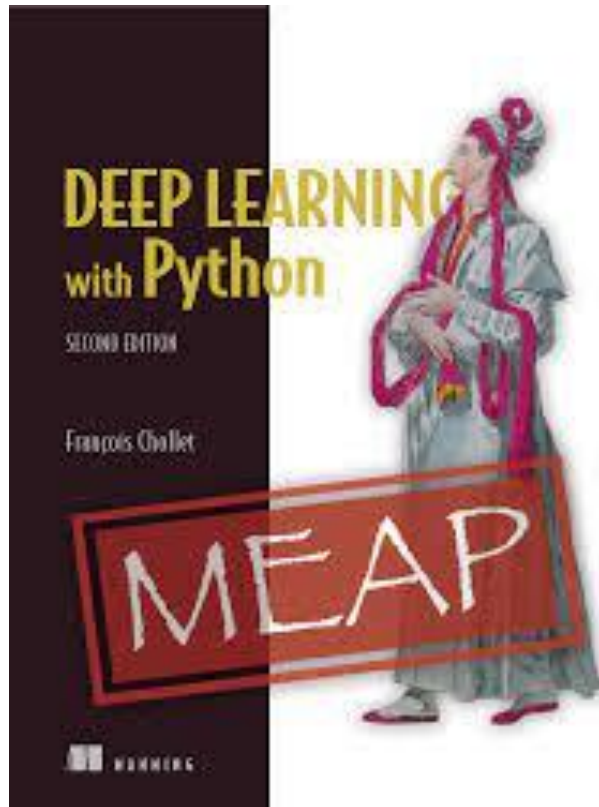
Topic	Learning Objectives	Slides	Code	Video
Course Requirements	<ul style="list-style-type: none">• Kaggle homework (40%)• Midterm & Final exam (30%)• Final project (30%)	pdf		
Textbooks & Reference	<ul style="list-style-type: none">• François Chollet, Deep Learning with Python, 2nd edition, 2021• Google Machine Learning Crash Course			
1 Past, Present, and Future of AI 人工智慧的前世今生與未來	<ul style="list-style-type: none">• Brief history of AI and ChatGPT• Free your imagination to unleash your potential	pdf		
2 Fundamentals of Machine Learning 機器學習之基本原理	<ul style="list-style-type: none">• Supervised Learning vs. Unsupervised Learning• Discrete Data vs. Continuous Data• Classification and Regression• Training & Testing	pdf	classifiers	

Course Requirements (under rolling correction)

- Kaggle-style homework (40%)
 - Fashion MNIST
 - Taiwanese Food 101
 - Data Preparation
 - AR/VR Object Detection
 - Stock Price Prediction
- Exam (30%)
 - Midterm (20%)
 - Quizzes (10%)
- Final Project (20%)
 - Team members (1 ~ 5)
 - YouTube demo video
- Attendance (10%)
 - Roll call
 - Flip classroom

Textbooks & References

- Francois Chollet, “Deep Learning with Python, 2nd Edition” Manning, 2021
- Ian Goodfellow, Yoshua Bengio, and Aaron Courville, “Deep Learning,” MIT Press, 2017
- Latest publications on Nature, CVPR, NIPS, ICML, AAI, ICLR



Schedule

Date	Syllabus
9/14	Introduction to Artificial Intelligence
9/21	Fundamentals of Machine Learning
HW1	Kaggle Homework 1 (Due 10/12)
9/28	Model Evaluation + TensorFlow & Keras
10/5	Applied Math
HW2	Kaggle Homework 2 (Due 10/26)
10/12	(ONLINE) Supervised Learning
10/19	Unsupervised Learning + Self Supervised Learning
10/26	Data Mining
11/2	Computer Vision & Convolutional Neural Networks (CNNs)
11/9	Midterm
HW3	Kaggle Homework 3 (Due 11/23)

Schedule (cont.)

Date	
11/16	Object Detection & Image Segmentation
11/23	Natural Language Processing (NLP)
HW4	Kaggle Homework 4 (Due 12/12)
11/30	Attention & Transformer
12/7	RNN & LSTM
12/14	Generative Adversarial Networks (GANs), Stable Diffusion
12/21	Deep Reinforcement Learning (DRL), Deep Learning on Graphs
12/28	Final Project Demo (YouTube Video, 10mins)
1/4	Final Project Demo (YouTube Video, 10mins)

Grading Policy of Homework

Kaggle Ranking	Grade Description	Grade
Top 5%	Excellent	A+
5% ~ 20%		A
20 ~ 50%	Very Good	A-
Others		B+ ~ B
< Random Guess		C
No submission		F

*Use your ranking to interpolate the grades

*Top 3 students get one free cup of Bubble Tea!



IF YOU DON'T STUDY

YOU SHALL NOT PASS

Facebook Group (Taipei Tech 電子系 人工智慧)

<https://www.facebook.com/groups/639436343684974>

