人工智慧理論與應用
Artificial Intelligence Theory and Application

Instructor: 馬豪尚/張家瑋/洪啟舜

Instructor

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› Office Hours: 週二14:00~17:00 週四14:00~17:00

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Research Area

› 資料探勘 (Data Mining) / 機器學習(Machine Learning) / 人工智慧 (Artificial Intelligence)

– 社群網路分析(Social Network Analysis)

– 推薦系統(Recommender Systems)

– 大數據資料分析(Big Data Analysis)

Course Syllabus

› Introduction to Artificial Intelligence
  – Data Mining
  – Machine Learning
  – Deep Learning

› Neural Network Basis
  – ANN

› Computer Vision
  – CNN

› Natural Language Processing
  – RNN/LSTM/Transformer

Course Syllabus

› Unsupervised Learning
 – Auto-Encoder

› Generative AI
 – Generative Adversarial Network

› Self-supervised Learning

› Reinforcement Learning

Data Mining

› Pattern Mining

› Classification

› Clustering

Machine Learning

› Supervise Learning
- Classification problems

› Unsupervised Learning
- Clustering problems
- Text mining

› Semi-supervised learning
- The classification problem with some missing labels
- The clustering problem with some labels

› Reinforcement Learning

Deep Learning

› Neural Network Basis
- Artificial Neural Network(ANN)
- Convolutional NN
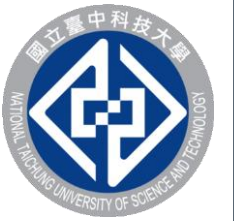- Residual NN
- Auto-Encoder
- Generative Adversarial Network
- …

評量方式

› 期中報告
  – 對於期中之前上課的內容交一份報告和心得
    – 可寫中文/英文

› 論文研討
  – 選擇一篇列表上的論文進行簡報報告
  – 繳交簡報投影片

Teams團隊

› 團隊代碼
  – **zj8mhqc**

Paper List of Presentation

› https://docs.google.com/spreadsheets/d/1m77-XwwEeFg8-GMIU1VW_Vgf0wfq6Hzb51E-Z8mSaGQ/edit#gid=0