



教學計劃表 Syllabus

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| 課程名稱(中文) Course Name in Chinese | 推薦系統 | 學年/學期 Academic Year/Semester | 113/1 |
| 課程名稱(英文) Course Name in English | Recommender System | | |
| 科目代碼 Course Code | AIIA50070 | 系級 Department & Year | 碩士 Course-Offering Department |
| 修別 Type | 選修 Elective | 學分數/時間 Credit(s)/Hour(s) | 3.0/3.0 |
| 授課教師 Instructor | /李官陵/羅壽之 | | |
| 先修課程 Prerequisite | | | |
| 課程描述 Course Description | | | |
| 本課程的目標為教授推薦系統基礎的方法與理論，並培養開發基礎推薦系統的實作能力 | | | |
| 課程目標 Course Objectives | | | |
| The goal of this course is to teach the basic methods and theories of recommendation systems and cultivate the practical ability to develop basic recommendation systems. | | | |
| 系專業能力 Basic Learning Outcomes | | | 課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives |
| A | 統合資工知識技術之能力 Ability to integrate knowledge and technologies of computer science and information engineering. | | ● |
| B | 設計技術理論驗證實驗之能力 Ability to design and conduct science experiments and to validate hypotheses. | | ● |
| C | 資訊軟硬體設計開發之能力 Ability to design and develop computer software and hardware. | | ○ |
| D | 團隊專案開發之能力 Ability to design and develop team projects. | | ● |
| E | 批判性思考與創新研發之能力 Ability of analytical thinking, creative research planning, and innovative development. | | ● |
| 圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated | | | |
| 授課進度表 Teaching Schedule & Content | | | |
| 週次 Week | 內容 Subject/Topics | | 備註 Remarks |
| 1 | Introduction | | |
| 2 | Moon Festival | | |
| 3 | Machine Learning: Practice and Tools | | |
| 4 | Classification and Regression | | |
| 5 | Support Vector Machine | | |
| 6 | Decision Tree and Random Forest | | |

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|----|--|--|
| 7 | Dimensional Reduction | |
| 8 | K-Means and Gaussian Mixture | |
| 9 | MT | |
| 10 | Neighborhood-based collaborative filtering | |
| 11 | Model-based collaborative filtering | |
| 12 | Content-based Recommender Systems | |
| 13 | Knowledge-based Recommender Systems | |
| 14 | Ensemble-based and Hybrid recommendation systems | |
| 15 | Evaluating Recommender System | |
| 16 | FT | |
| 17 | Project report (submit slides + video) | |
| 18 | consultation | |

教學策略 Teaching Strategies

- 課堂講授 Lecture
 分組討論 Group Discussion
 參觀實習 Field Trip
- 其他 Miscellaneous:

教學創新自評 Teaching Self-Evaluation

創新教學 (Innovative Teaching)

- 問題導向學習 (PBL)
 團體合作學習 (TBL)
 解決導向學習 (SBL)
- 翻轉教室 Flipped Classroom
 磨課師 Moocs

社會責任 (Social Responsibility)

- 在地實踐 Community Practice
 產學合作 Industry-Academia Cooperation

跨域合作 (Transdisciplinary Projects)

- 跨界教學 Transdisciplinary Teaching
 跨院系教學 Inter-collegiate Teaching

- 業師合授 Courses Co-taught with Industry Practitioners

其它 other:

學期成績計算及多元評量方式 Grading & Assessments

| 配分項目 Items | 配分比例 Percentage | 多元評量方式 Assessments | | | | | | | |
|----------------------------------|--------------------|--------------------|----------|----------|----------|----------|----------|----------|----|
| | | 測驗 會考 | 實作 觀察 | 口頭 發表 | 專題 研究 | 創作 展演 | 卷宗 評量 | 證照 檢定 | 其他 |
| 平時成績 General Performance | 10% | | ✓ | | | | | | |
| 期中考成績 Midterm Exam | 32% | ✓ | | | | | | | |
| 期末考成績 Final Exam | 32% | ✓ | | | | | | | |
| 作業成績 Homework and/or Assignments | 26% | | ✓ | ✓ | | | | | |
| 其他 Miscellaneous (_____) | | | | | | | | | |

評量方式補充說明

Grading & Assessments Supplemental instructions

教科書與參考書目 (書名、作者、書局、代理商、說明)

Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

Recommender Systems, Charu C. Aggarwal, Springer, 2016

Recommender Systems: An Introduction, Dietmar Jannach, Markus Zanker, Alexander Felfernig, and Gerhard Friedric, Cambridge, 2010

Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems 3rd edition, Aurélien Géron, O'Reilly Media, Inc, 2019

課程教材網址(含線上教學資訊, 教師個人網址請列位於本校內之網址)

Teaching Aids & Teacher's Website(Including online teaching information. Personal website can be listed here.)

e學苑

其他補充說明 (Supplemental instructions)