

Python for Data Analysis

Lecture:

George, Willy and David of NumerInfo Corporation

Target Audience:

NCCU DM Lab Student

Class Schedule:

1/16, 1/17 1/23, 2/13, 2/20, 2/27, 3/6, 3/13, 3/20

Location:

NCCU

Assignments:

7 assignments

Project:

1 Real-world Project (Peer-Review)

Agenda:

Class 1: Introduction to Python Programming & Data Analysis

2013/01/16	Level : Basic
[0 min]	Python Installation Environment Setup (Prerequisite)
[50 min]	Quick Introduction to Python Programming
[30 min]	iPython Introduction
[30 min]	Data Analysis With iPython
[30 min]	Introduction to Data Science
[10 min]	Homework

Class 2: Data Collection, Cleansing, ETL With Python

2013/01/17	Level : Basic
[40 min]	Scraping Unstructured Data With Python Crawler
[50 min]	Database CRUD With python
[50 min]	Data Cleaning With Python Library
[10 min]	Homework

Class 3: Data Analysis and Visualization

2013/01/23	Level : Basic
[30 min]	Processing Data With Numpy & Scipy
[40 min]	Visualize Data With Matplotlib
[40 min]	Clean, Transform and Data Merge With Pandas
[30 min]	Machine Learning / Data Mining With Scikit-Learn
[10 min]	Homework for Spring Vacation

Class 4: Back to School Wrap Up

2013/02/13	Level : Basic
[50 min]	Homework Review
[60 min]	Review Data Analysis Related Method and Library
[40 min]	Real-World Project and Introduction to Kaggle

Class 5: Topic Modeling With Python

2013/02/20	Level : Advance
[50 min]	Word Segmentation With NLTK
[40 min]	Clustering With Scikit-Learn
[50 min]	Implement Topic Modeling
[10 min]	Homework

Class 6: Spam Mail Classification With Python

2013/02/27	Level : Advance
[40 min]	Classification With Scikit-Learn
[50 min]	Implement Bayesian Classifier
[50 min]	Implement Spam Mail Classification
[10 min]	Homework

Class 7: Recommendation System

2013/03/06	Level : Advance
[50 min]	Score Determination of Recommendation System
[40 min]	Regression / Ranking With Scikit-Learn
[50 min]	Implement Recommendation System
[10 min]	Homework

Class 8: Social Network Mining With Python

2013/03/13	Level : Advance
[50 min]	Retrieve Social Network Data (Oauth, Oauth2, OpenID)
[40 min]	Community Detection and Network Analysis with NetworkX
[50 min]	Social Network Mining With Python
[10 min]	Homework

Class 9: Social Network Mining With Python

2013/03/20	Level : Advance
[40 min]	Model Selection With Python
[60 min]	Peer Review and Assessment of Real-World Project
[50 min]	Final Course Wrap-Up