AI Workshop @ NTNE

Chun-Hsiang Chan
Department of Geography, National Taiwan Normal University
2024.09.12

Outline

- About CCH
- Foundations of Artificial Intelligence
- Machine Learning Algorithm (Part I)
- Machine Learning Algorithm (Part II) + Explainable AI
- Further Learning Materials

About CCH

現職:

國立臺灣師範大學地理系 助理教授

主要經歷:

中原大學智慧運算與大數據學士班/碩士學位學程 助理教授
台灣資安鑄造股份有限公司 人工智慧分析顧問
臺北醫學大學醫學系放射線學科 博士後研究員
臺北市立萬芳醫院影像醫學部 博士後研究員
中央研究院社會學研究所 兼任資料分析師
資訊工業策進會資安科技研究所 工程師
國家災害防救科技中心坡地組 實習生
國立臺灣大學化學系 專題生

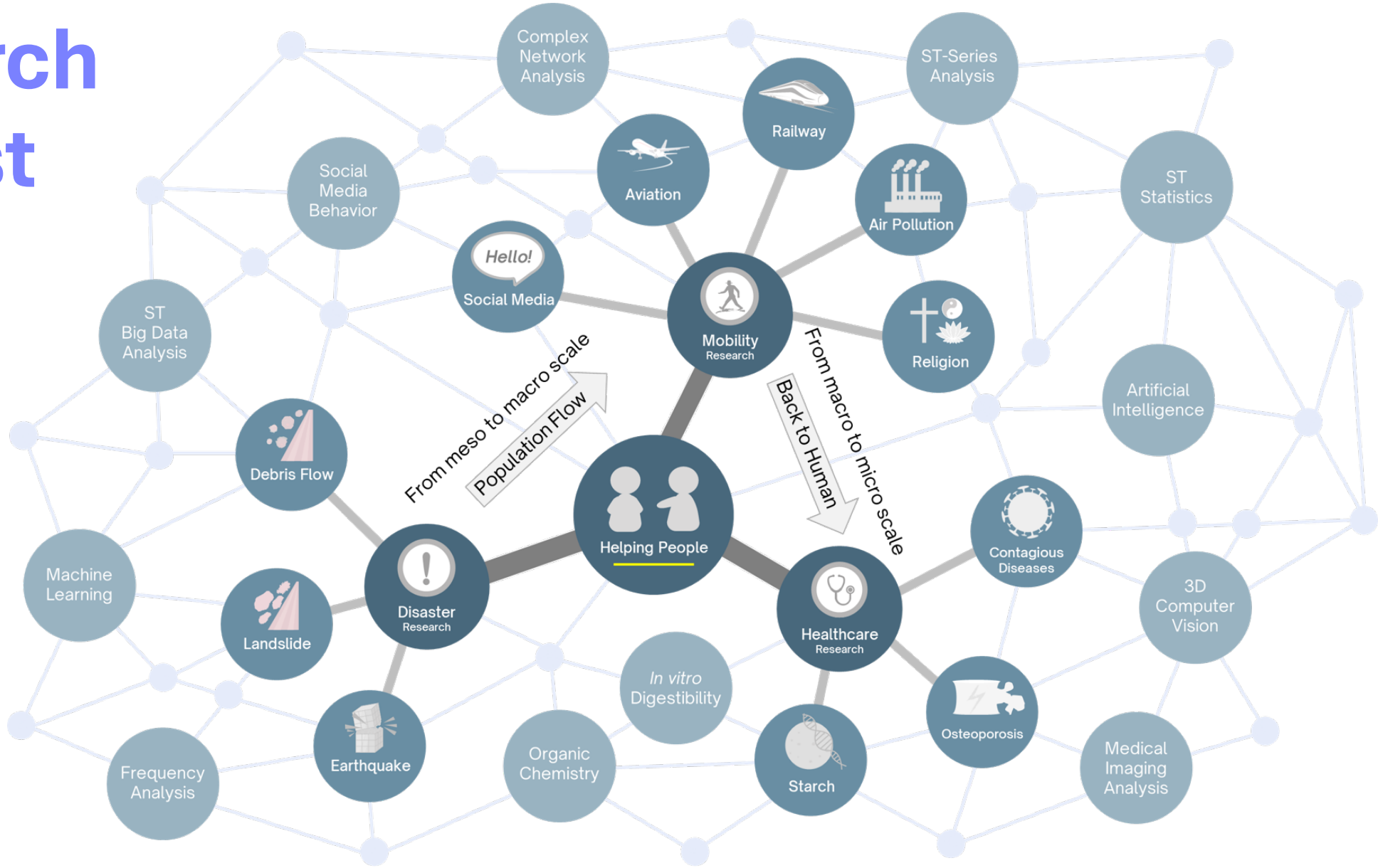
學歷:

國立臺灣大學地理環境資源學系 博士
國立臺灣大學地理環境資源學系 碩士
實踐大學食品營養與保健生技學系 碩士
國立臺北教育大學社會與區域發展學系 學士

SCAN ME

SCAN ME

Research Interest



Previous Projects

Global

Global Airline Alliance Airport Network

Timely Exposure Risk Estimation

COVID-19 Disease Transmission

Spatiotemporal Religious Dissemination

Social Media Marketing

Urban

Other Interests

Русский | Español | 日本語

My first Russian Book |
Published in Nov. 2021

Exhibition Staff |
Moscow, 2015

Exhibition Staff | St. Petersburg, 2015

Exhibition Staff | República Dominicana, 2015

Exhibition Staff | Colombia, 2015

Host | NTU Russian Night, 2017

ABC news | Paraguay, 2015
Exhibition Staff | Paraguay, 2015

Foundations of Artificial Intelligence

09.19 | 人工智慧基礎(概念、資料處理、程式設計基礎)

- System and environment settings for developers
- What is artificial intelligence?
- How does artificial intelligence change our daily life?
- The opportunities and dilemmas of artificial intelligence
- Data processing and cleaning
- Labeling
- Basic Programming (Pandas & Numpy)

Machine Learning Algorithm (Part I)

10.17 | 機器學習資料前處理

- Objectives
- Data Collection
- Mindset in Data Preprocessing
- Data Preprocessing (Cleaning)
- Data Integration
- Summary

Machine Learning Algorithm (Part II) + Explainable AI

10.24 | 機器學習演算法

- Concept of Classification
- Evaluation Metrics
- Model Optimization
- Overfitting vs Underfitting
- Bagging
- Boosting
- K-Nearest Neighbors
- Decision Tree
- Random Forest
- AdaBoost
- Gradient Boost
- XGBoost
- LightGBM
- CatBoost
- Naive Bayes
- Linear SVM
- Remarks

Further Learning Materials

SCAN ME

SCAN ME

Urban Geographic Information System (Python)

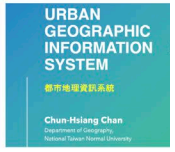
Urban Geographic Information System (Python) @ NTNU Course Content

As the development of air transportation, people are suffered from infectious disease much severe than ever. But how ca
public health system from a geographic approach? In the undergraduate courses, you have already understood various spat
however, you seldom apply these methods into your projects or dissertations. Here, we will use three examples
spatiotemporal disease transmission and the applications of spatial analysis in the clinical medicine.

Course Intro.

Python Environment Settings

Python Basic I



Big Data Fundamentals and Application

Big Data Fundamentals and Application @ CYCU Course Content

The term "Big Data" has been popular in recent years, but the spirit and critical conc
data warehouse or analytic R&D cost could not reflect on revenue to the company. T
skills within this course and attempt to stimulate brainstorming through several p
required to leverage the data analytical approaches in the final project presentation.

Course Intro

[Slide] Numerical Analysis I

Web Crawler Practice

Web Crawler Practice @ NTNU Course Content

Many datasets are available on line and often consist of a vast amount of data. Downloading the entire dataset quickly can be a challenge. However, manually selecting data to download can result in missing important information. This course aims to teach you the most widely used web crawler package in Python for both static and dynamic websites, enabling you to efficiently download the desired datasets.

Course Intro.

01 :: Course Introduction

Contents: (1) About CCH (2) Course intro (3) Grading policy (4) Why do you need to take this course? (5) What will you learn from this

Web Crawler Ethics

02 :: Web Crawler Ethics

Contents: (1) The Definition of Web Crawler (2) Legal Issues (3) Regulations (4) Ethical Problems (5) LawsuitExamples (6) Questions

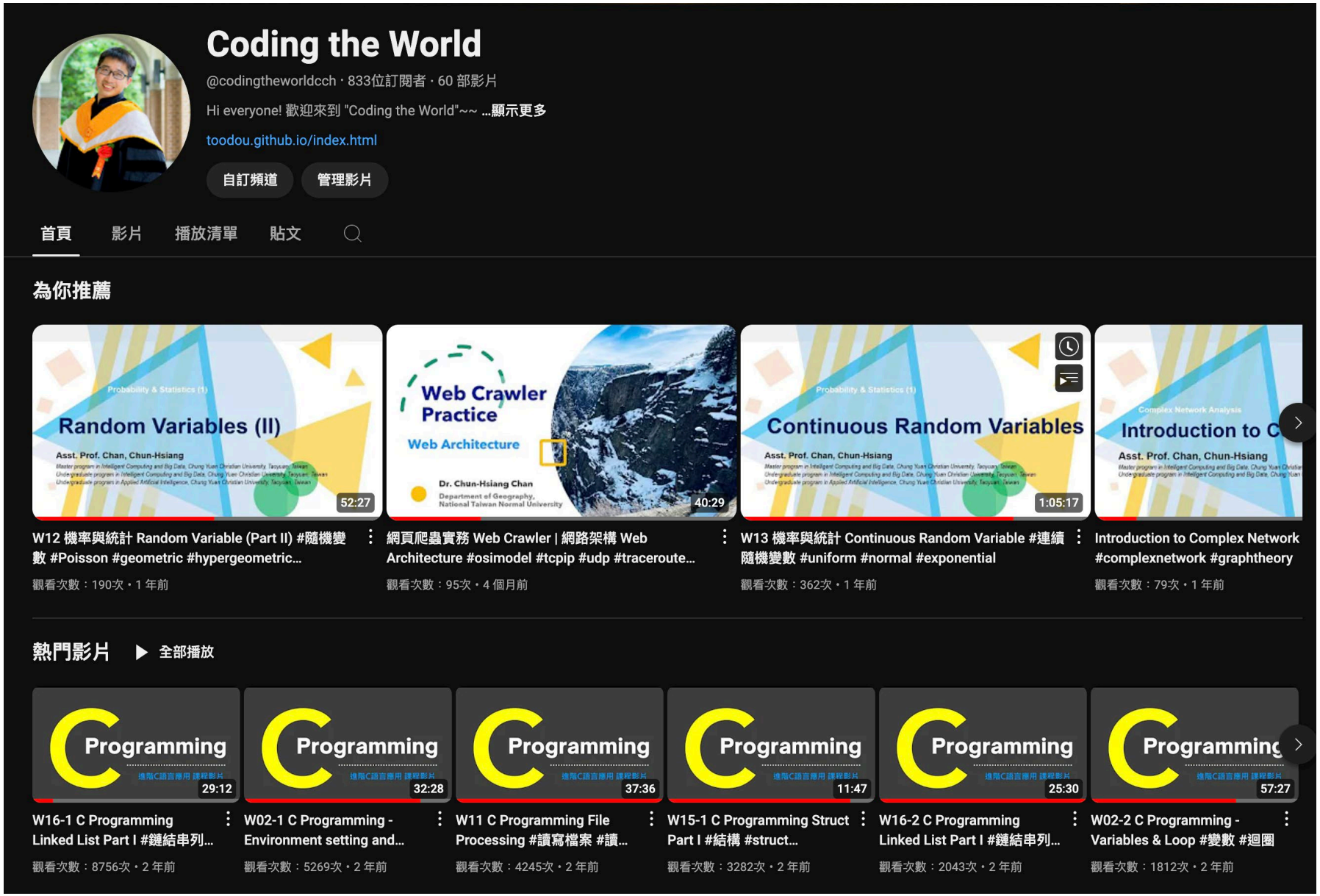
Web Design I :: HTML

03 :: Web Design I – HTML

Content: (1) What is HTML? (2) Editors: Sublime (3) How to Design My First Website? (4) Website Architecture (5) Lorem Ipsum (6)

https://toodou.github.io/

Further Learning Materials



The End

Thank you for your attention!

Email: chchan@ntnu.edu.tw
Web: toodou.github.io