

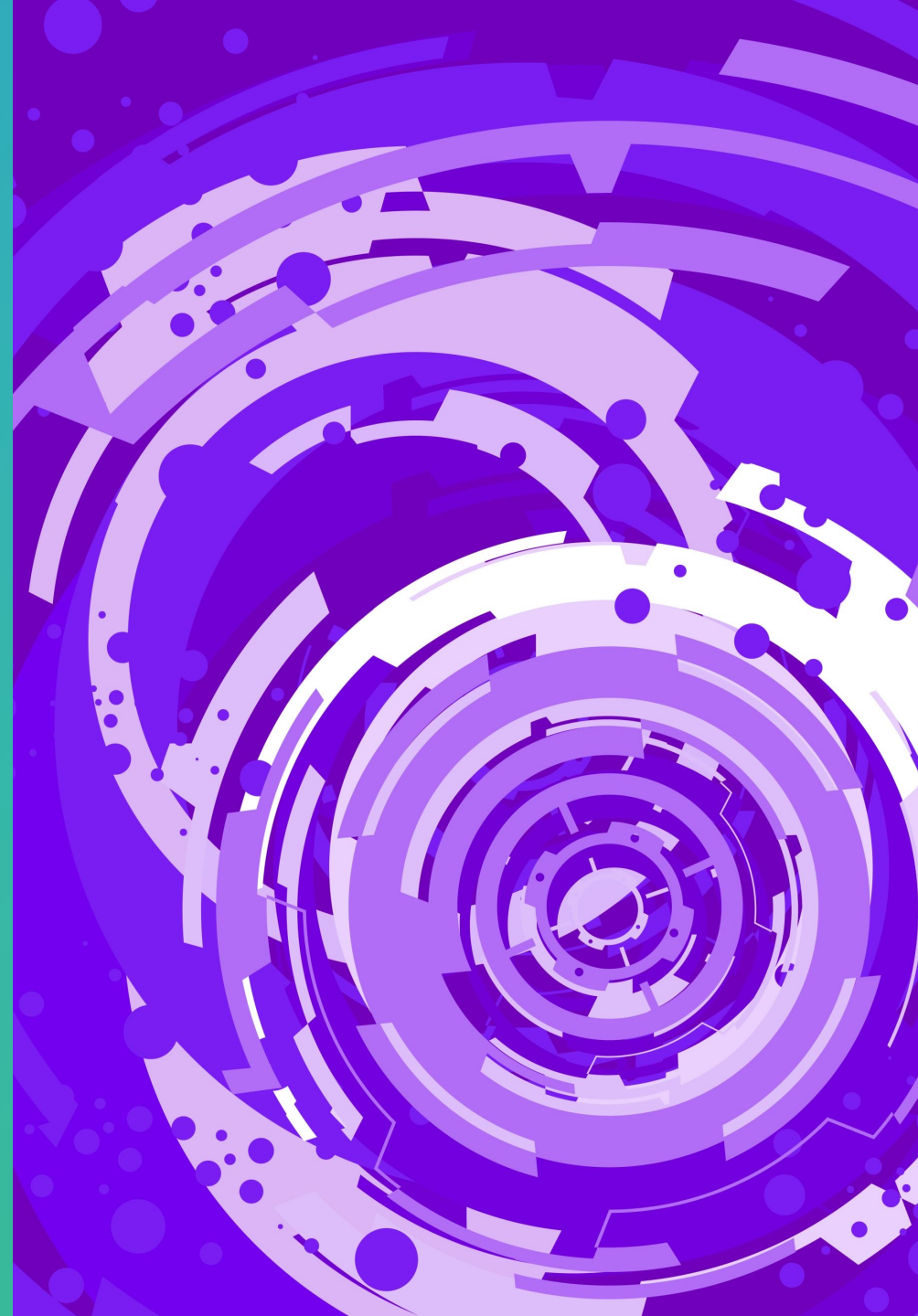
URBAN GEOGRAPHIC INFORMATION SYSTEM



Course Intro.

Chun-Hsiang Chan

Department of Geography,
National Taiwan Normal University





Outline

- About CCH
- Course Intro
- Grading Policy
- Why do you need to take this course?
- What will you learn from this course?
- Question Time

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

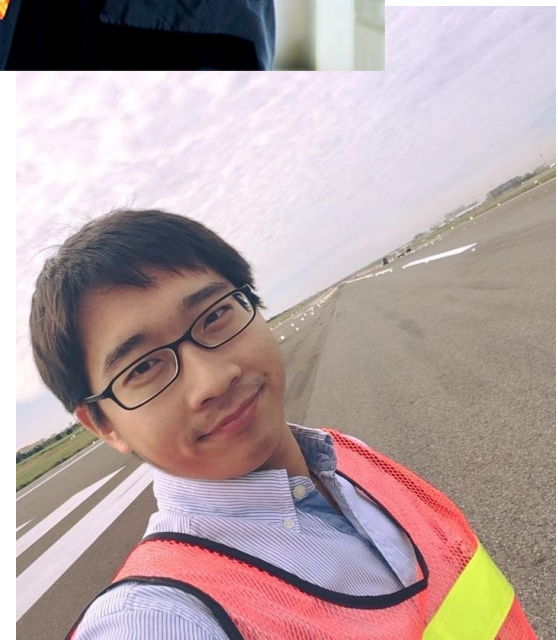
學歷:

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



Research Interests



Previous Projects



Global Airline Alliance Airport Network



Timely Exposure Risk Estimation

4 SEPTEMBER 2023

Spatiotemporal Religious Dissemination



COVID-19 Disease Transmission

Social Media Marketing



Other Projects

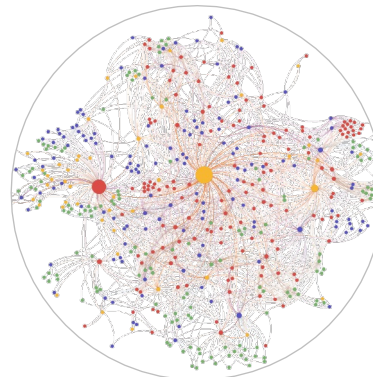
Disaster Warning AI



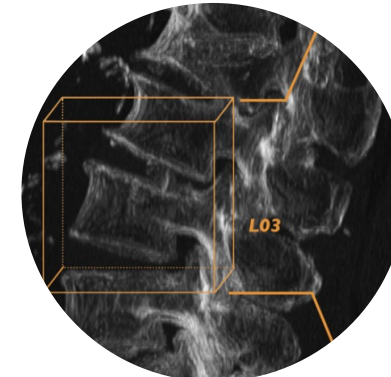
Heatwave Events



Cybersecurity AI



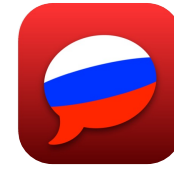
Osteoporosis AI



CPR AI



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

Course Intro.

- In the capacity of an urban Geographic Information Systems (GIS) researcher, one is confronted with the formidable challenge of dealing with vast and diverse datasets, some of which may be dynamically generated in real-time (streaming data) rather than being static in nature.
- Consequently, the initial inquiry that naturally arises pertains to the methods and tools available for the processing of "Big Data" or "Streaming Data" within the computational environment.

Course Intro.



Python, being one of the most ubiquitous programming languages, offers an array of pragmatic packages and libraries.

These package resources, meticulously designed and curated, not only expedite the execution of data analytics but also furnish an assortment of sophisticated visualization tools capable of captivating the attention of stakeholders and researchers alike.

Course Intro.

Week	Date	Content
1	Sep. 4	Course Introduction
2	Sep. 11	Python environment establishment
3	Sep. 18	Python fundamental programming I
4	Sep. 25	Python fundamental programming II
5	Oct. 2	Python fundamental programming III
6	Oct. 9	National Day (no class)
7	Oct. 16	Python statistics
8	Oct. 23	Midterm Exam Week (no class)
9	Oct. 30	Midterm Proposal Pitch
10	Nov. 6	Python machine learning I

Week	Date	Content
11	Nov. 13	Python machine learning II
12	Nov. 20	PBL python integration
13	Nov. 27	Python imaging analysis I
14	Dec. 4	Python imaging analysis II
15	Dec. 11	Final Report Presentation
16	Dec. 18	Final Exam Week (no class)

Grading Policy



All you have to do is study hard and feel free to ask question when you do not understand.



I believe that if you fulfill all required items, and then you will pass this course / get a high GPA.



Do not worry about the grade! The most important things is what you learn from this course.

Attendance 10%

Assignment 30%

Midterm Report 30%

Final Report 30%

Why do you need to take this course?



- As AIoT and 5G development, more and more data streaming sources have been established, but how to analyze these data efficiently and proffer insightful information for stakeholders.

What will you learn from this course?

- At the beginning of this course, we will teach Python programming with several examples, which could accelerate your learning curve of data preprocessing and data analysis.
- The second part of this course is to introduce some useful and common machine learning algorithms with a little bit of mathematics (easy part) and programming (using packages).
- The third part is image processing, which is also a common data source in geography field.



The End

Thank you for your attention!

Email: chchan@ntnu.edu.tw

Web: toodou.github.io

