



Introduction to Geospatial Visualization

Hwee-Xian TAN

17 Aug 2021

0930 hrs – 1230 hrs

// About



Hwee-Xian TAN

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Ph.D. ('11)



Scientist ('12 - '15)



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What is Geospatial Data?

“Geospatial data is time-based data that is related to a specific location on the Earth’s surface. It can provide insights into relationships between variables and reveal patterns and trends.”

- [IBM](#)

Pop Quiz!

What was the first use of geospatial data/analysis?

1. Identifying covid clusters
2. Detecting cholera
3. Finding out which BTO to apply for



// Learning Objectives

1 Basics

1.1 What is Folium, and what can it be used for?

1.2 Plotting markers, circles and circle markers

1.3 Adding images

1.4 Adding convenient tools

2 S\$1 Million Dollar Resale Flats in SG

2.1 Getting coordinates of flats from OneMap API

2.2 Plotting flat locations using ClusterMap

2.3 Plotting boundaries

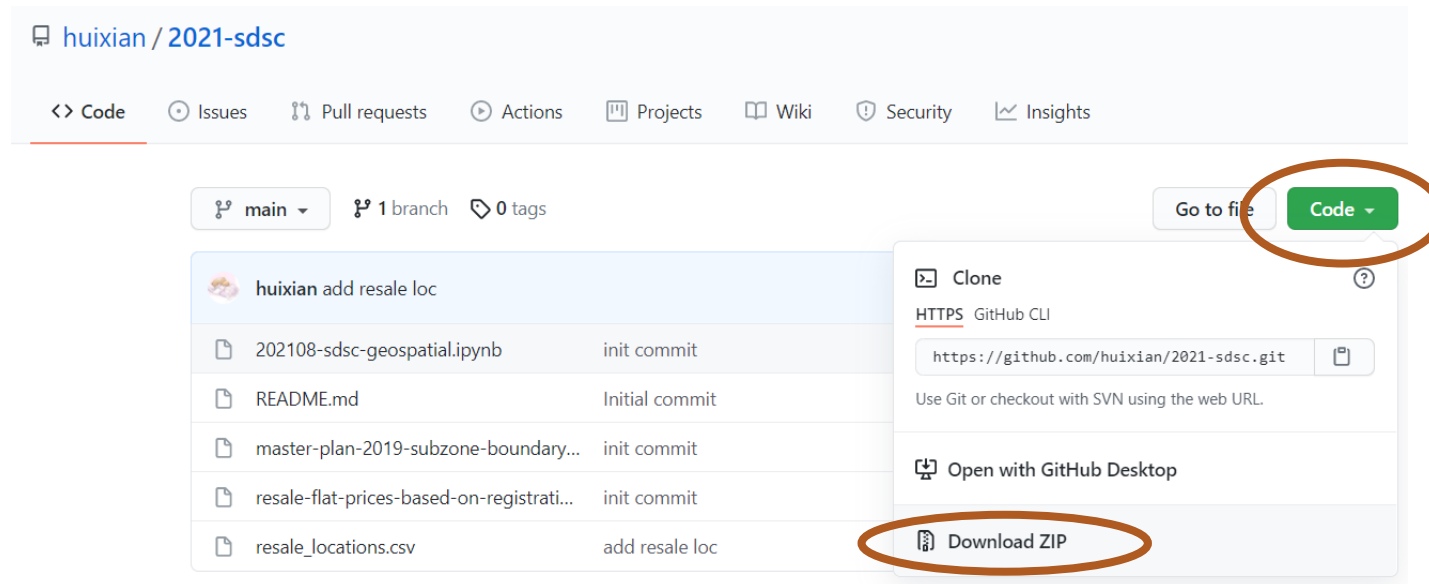
2.4 Plotting choropleths

3 Timestamped Path

Let's Get Started! 😊

Step 1

Go to <https://github.com/huixian/2021-sdsc> and download the repository in a zip file
Extract the zip file to your local machine



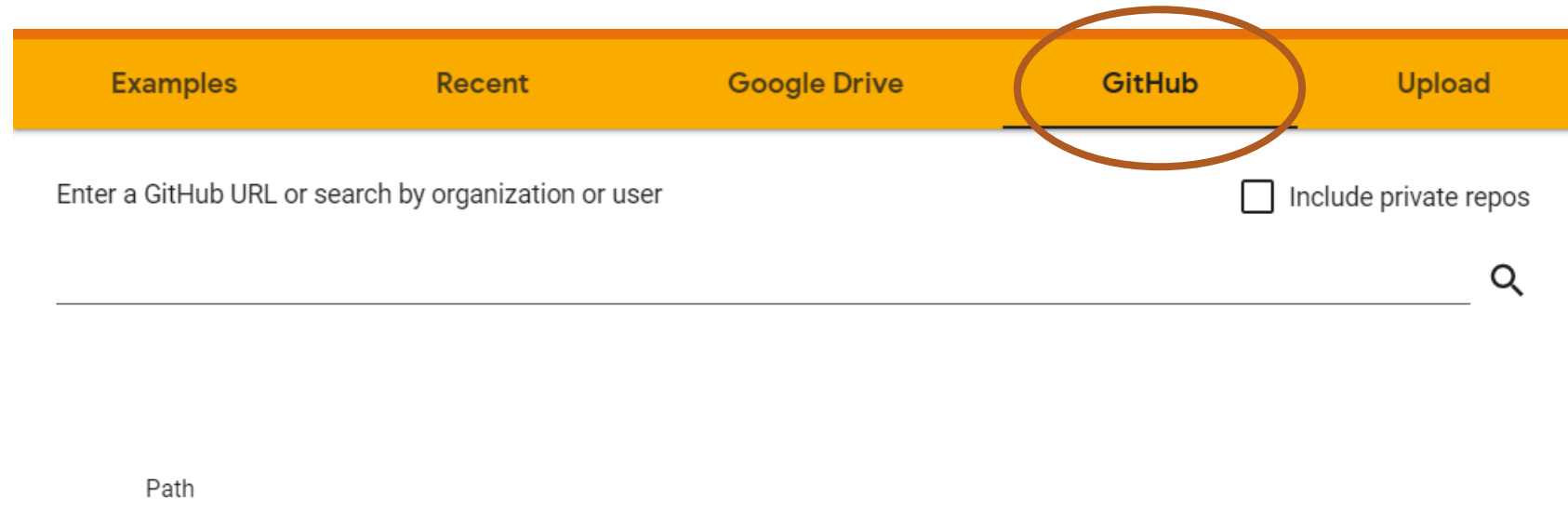
Let's Get Started! 😊

Step 2

Go to <https://colab.research.google.com/> and sign in using your Google account

Step 3

Click on the GitHub tab



The screenshot shows the Google Colab interface. At the top, there is a navigation bar with five tabs: "Examples", "Recent", "Google Drive", "GitHub", and "Upload". The "GitHub" tab is highlighted with a brown oval. Below the navigation bar, there is a search bar with the placeholder text "Enter a GitHub URL or search by organization or user". To the right of the search bar is a checkbox labeled "Include private repos". Below the search bar is a horizontal line, and below that is a label "Path" followed by another horizontal line. A magnifying glass icon is located to the right of the search bar.

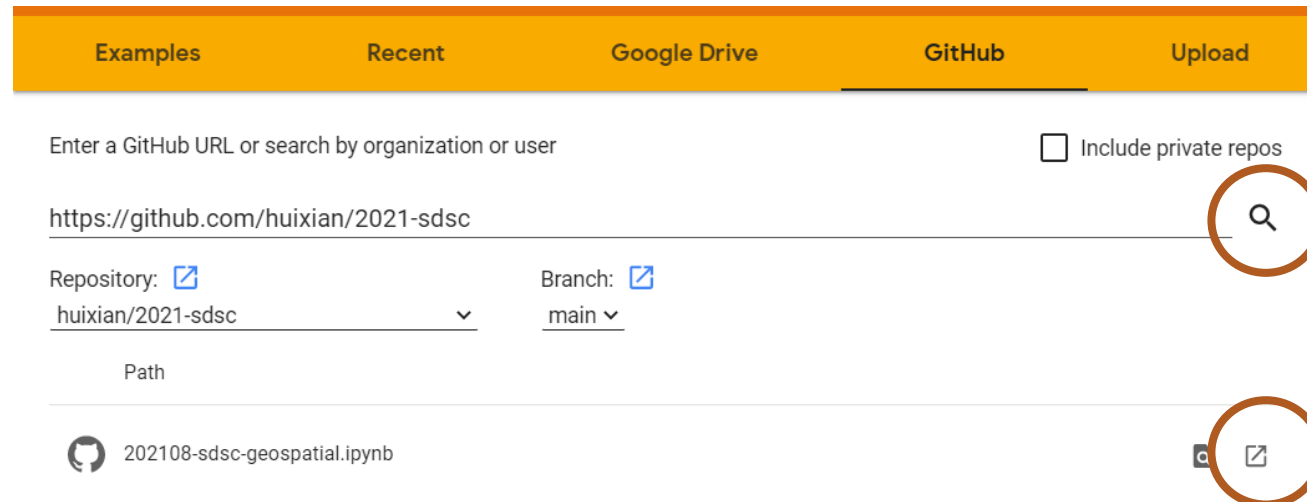
Let's Get Started! 😊

Step 4

Search for the following GitHub URL: <https://github.com/huixian/2021-sdsc>

Step 5

Click on “Open notebook in new tab”



Examples Recent Google Drive GitHub Upload

Enter a GitHub URL or search by organization or user ☐ Include private repos

<https://github.com/huixian/2021-sdsc>

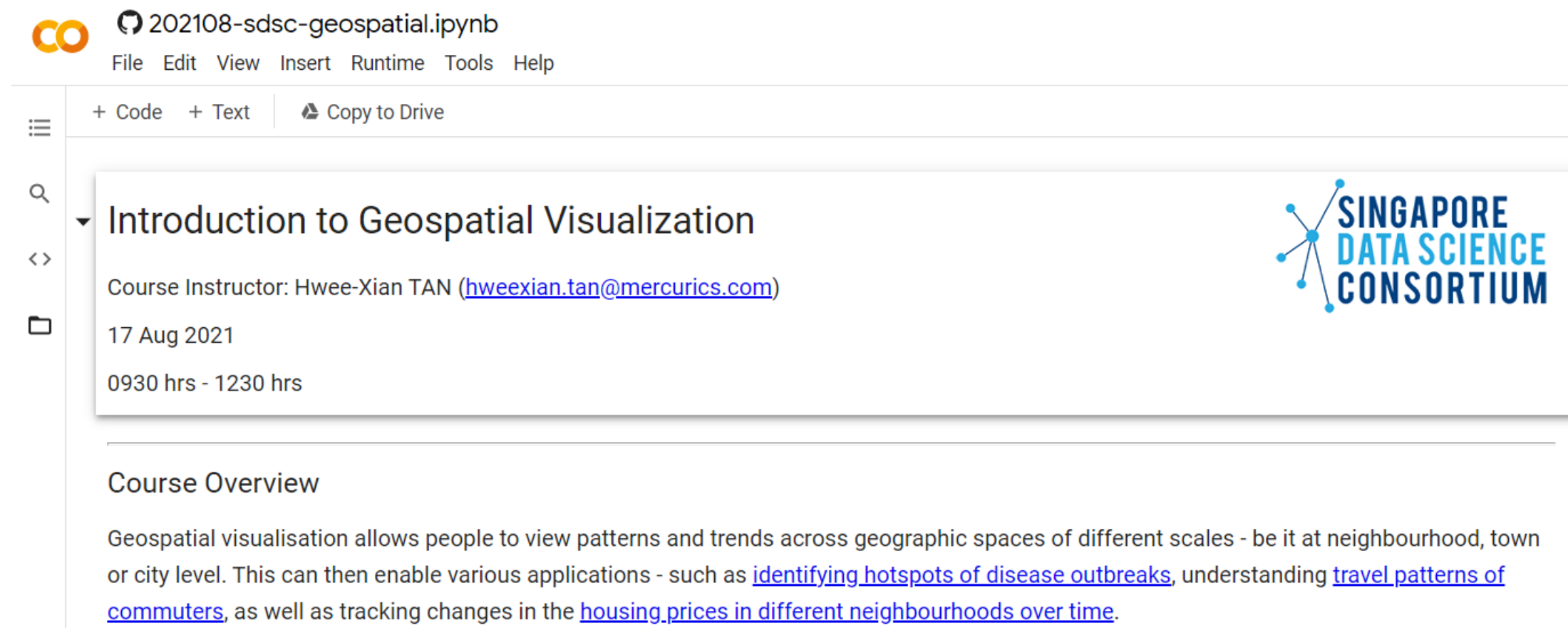
Repository: [🔗](#) huixian/2021-sdsc Branch: [🔗](#) main

Path

202108-sdsc-geospatial.ipynb

Let's Get Started! 😊

You should now see this page!



The screenshot shows a Google Colab notebook titled "202108-sdsc-geospatial.ipynb". The interface includes a top menu bar with "File", "Edit", "View", "Insert", "Runtime", "Tools", and "Help". Below the menu bar, there are tabs for "+ Code", "+ Text", and a "Copy to Drive" button. On the left side, there is a sidebar with a search icon, a dropdown arrow, and a folder icon. The main content area displays the title "Introduction to Geospatial Visualization" in a large font. Below the title, it lists the "Course Instructor: Hwee-Xian TAN" with a blue hyperlink to hweexian.tan@mercurics.com. The date "17 Aug 2021" and the time "0930 hrs - 1230 hrs" are also shown. On the right side of the main content area, there is a logo for the "SINGAPORE DATA SCIENCE CONSORTIUM" featuring a stylized network diagram. Below the main content area, there is a section titled "Course Overview" which contains a paragraph of text: "Geospatial visualisation allows people to view patterns and trends across geographic spaces of different scales - be it at neighbourhood, town or city level. This can then enable various applications - such as [identifying hotspots of disease outbreaks](#), understanding [travel patterns of commuters](#), as well as tracking changes in the [housing prices in different neighbourhoods over time](#)."

202108-sdsc-geospatial.ipynb

File Edit View Insert Runtime Tools Help

+ Code + Text Copy to Drive

Introduction to Geospatial Visualization


Course Instructor: Hwee-Xian TAN (hweexian.tan@mercurics.com)

17 Aug 2021

0930 hrs - 1230 hrs

Course Overview

Geospatial visualisation allows people to view patterns and trends across geographic spaces of different scales - be it at neighbourhood, town or city level. This can then enable various applications - such as [identifying hotspots of disease outbreaks](#), understanding [travel patterns of commuters](#), as well as tracking changes in the [housing prices in different neighbourhoods over time](#).



R WE THERE YET?

A scene from the animated movie Shrek. Shrek, Fiona, and Donkey are inside a cave. Shrek is on the right, looking grumpy. Fiona is on the left, looking concerned. Donkey is in the background, looking out of a hole in the cave wall. The text is overlaid on the image.

**WE'VE ONLY BEEN DRIVING FOR
1 MINUTE AND THERE'S 2 HOURS TO GO.**

Let's Get Started! 😊

Step 6

Click on the upload button on the left hand panel.

Upload the following 3 files (that were extracted from the zip file).

