

H U M A 5 6 3 0

The Classic of
Mountains and Seas

Group 3



1 · Project Introduction

2 · Research Questions

3 · Project Findings

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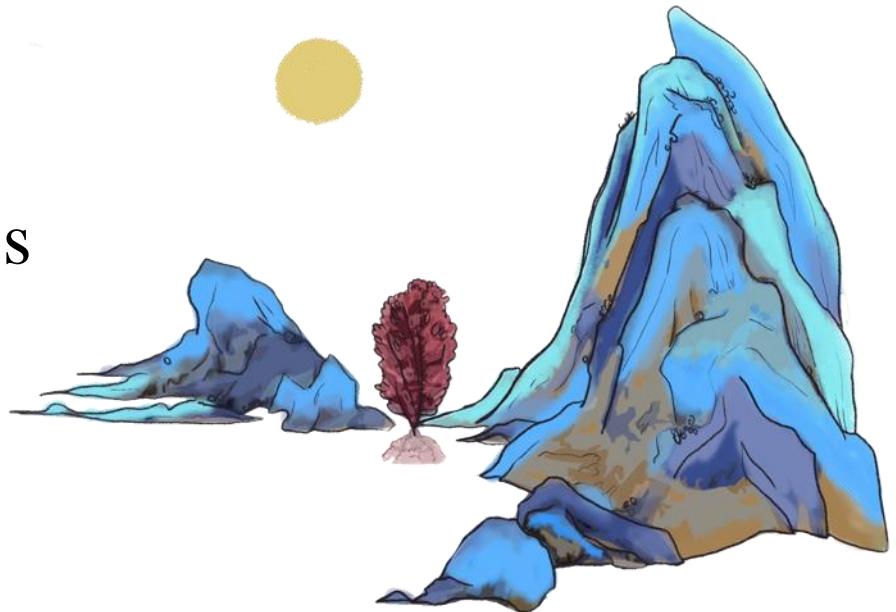
6 · Future Improvement

1. Project Introduction

1. Project Introduction

Primary Objective:

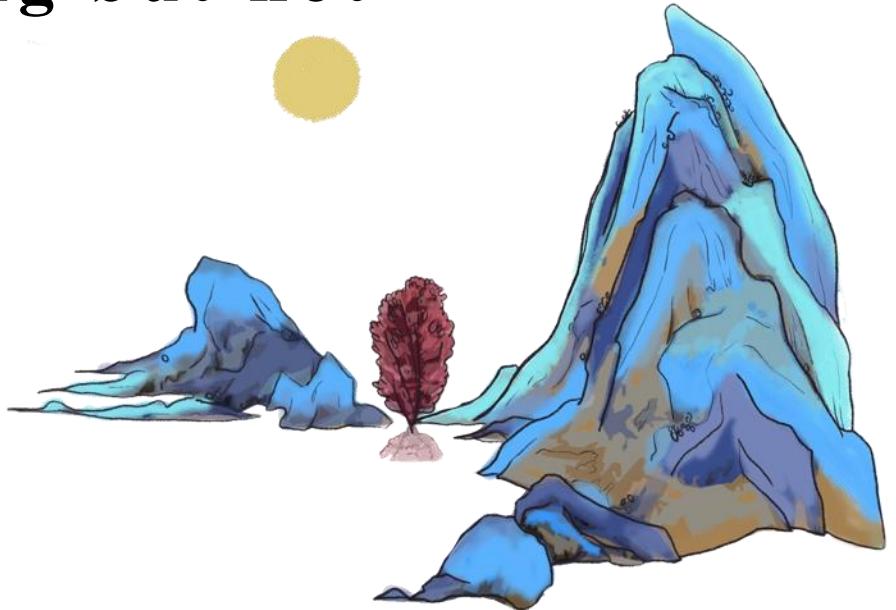
- utilize modern technology present 'The Classic of Mountains and Seas'.
- to bring to life this fascinating world in ancient Chinese myths and showcase their fascination.



1. Project Introduction

Research methodology, including but not limited to.....

- Text analysis
- Spatial mapping
- Data analysis

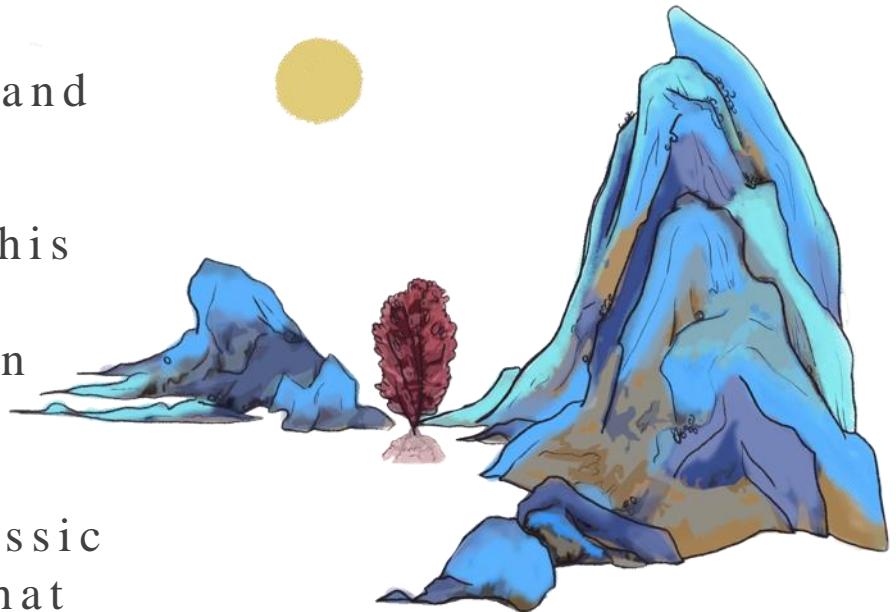




2. Research Questions

How can we gain insight into the world of ‘The Classic of Mountains and Seas’?

1. What modern technologies can be used to better analyze this classic work and enhance readers' understanding of the content for both domestic and foreign readers?
2. Is there any connection between the map in this classic and the modern map? And how can we explore the changes between the map depicted in this literary work and the modern map?
3. How can various mythical creatures in the classic work be presented clearly and interestingly? What aspects can be used to present them?

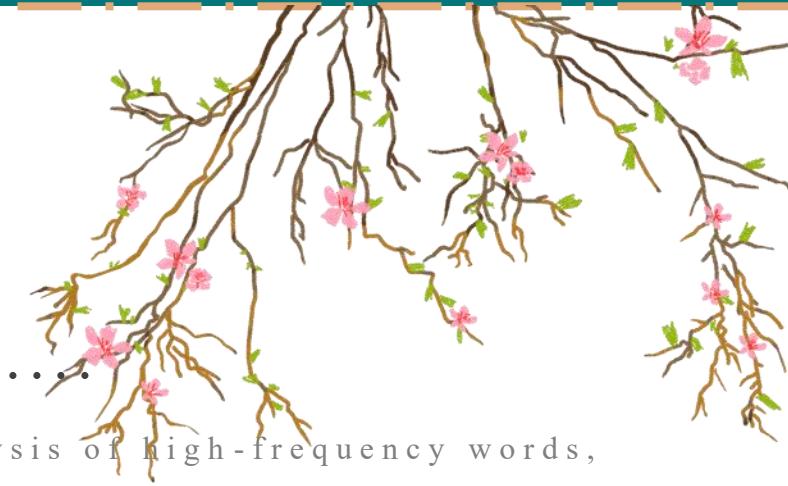


3. Project Findings

3. Project Findings

Firstly, this project analyzes the text,.....

This part utilized various techniques, such as word cloud analysis of high-frequency words, annotation on the full text, and full text display, which were visually presented to provide a more intuitive understanding of the text's content. To enhance the reader's comprehension of the Classic, different color blocks were implemented in the text to distinguish attributes of words, such as characters, monsters, treasures, and locations.



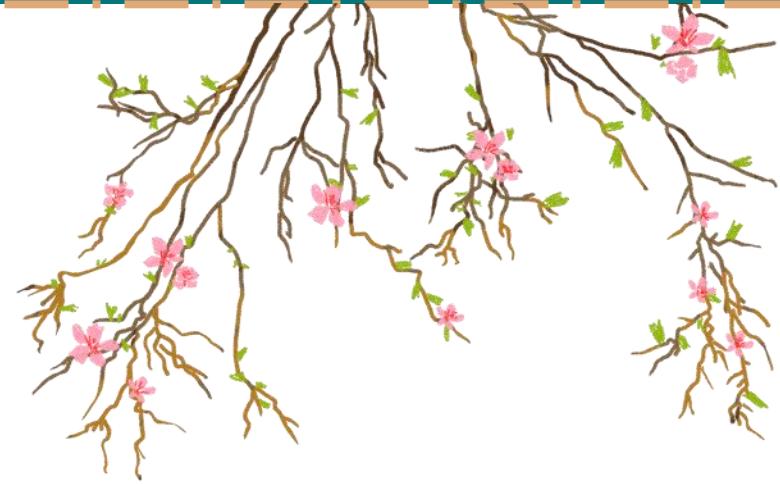
Secondly, investigates the geographic descriptions in the Classic through mapping.....

This section conducted an in-depth investigation of the complex distribution of countries and rivers mentioned in the text, using geographical descriptions to gain insight into the ancient mythological world. Additionally, an ancient map was investigated and compared with a modern map to clarify three geographical coordinates.

3. Project Findings

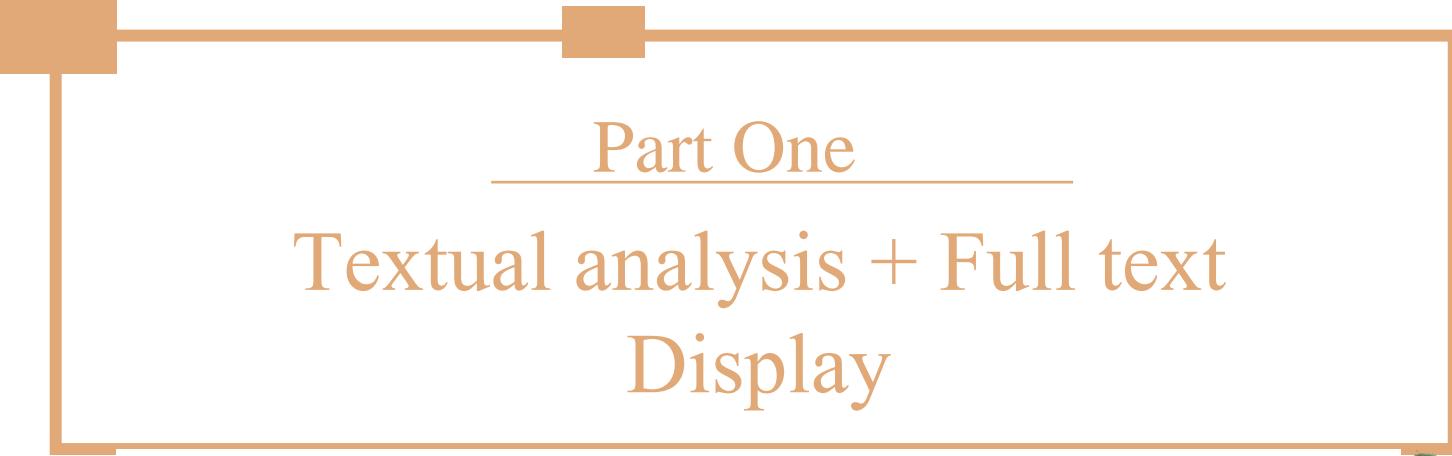
Thirdly, the categorization of mythical creatures in the classic

The part delved into the mythical creatures portrayed in this work, offering a fascinating and distinctive approach to exploring the text's content. This includes examining the quantity and classification of creatures, and utilizing pie charts to illustrate the distribution of creature numbers in each chapter and the proportion of each creature type. Additionally, the part provided original texts and translations of relevant mythical creatures, with the goal of helping readers gain a more vivid comprehension of them.





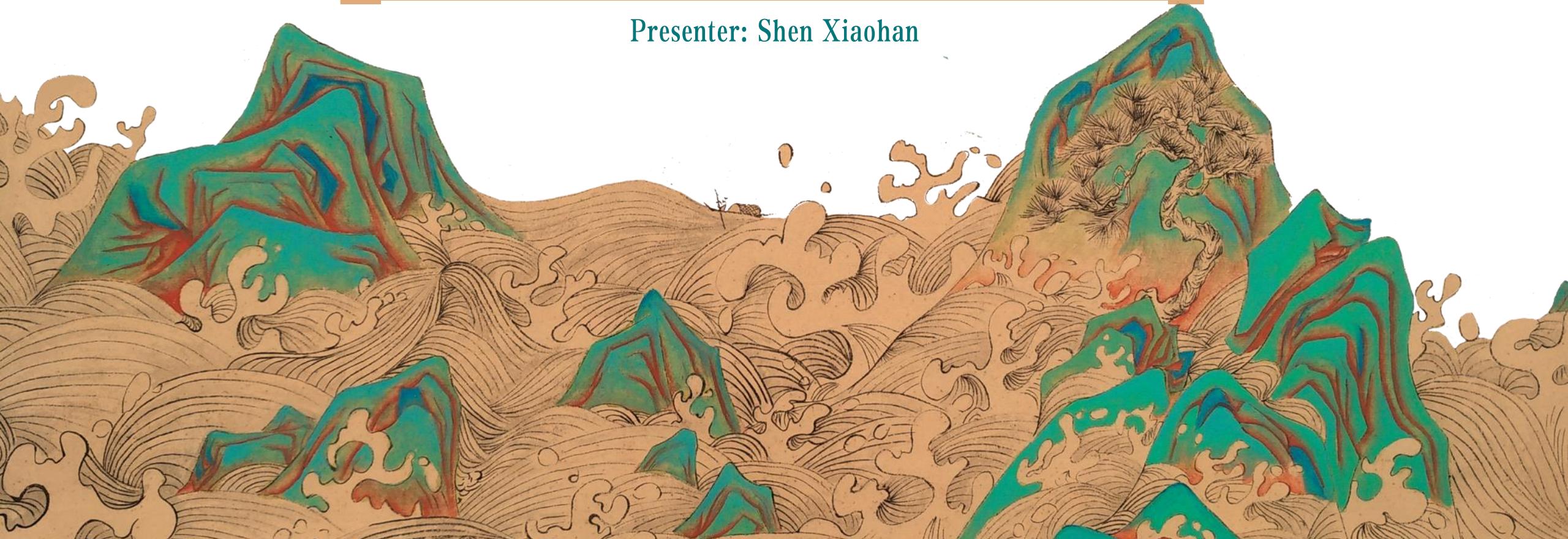
4. Workflow & Demo



Part One

Textual analysis + Full text Display

Presenter: Shen Xiaohan



01. Acquiring Humanit

<https://ctext.org/shan-hai-jing/ens>

[Google 学术搜索](#) [Books, Articles, & Data](#)

[中文版](#) [繁体](#)

百諸
家子

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- [Daoism](#)
- [Legalism](#)
- [School of Names](#)
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- [Mathematics](#)
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- [Histories](#)
- [Ancient Classics](#)
- [Book of Poetry](#)
- [Shang Shu](#)
- [Book of Changes](#)
- [The Rites of Zhou](#)
- [Chu Ci](#)
- [Yili](#)
- [\[Shan Hai Jing\]](#)
- [南山经](#)
- [西山经](#)
- [北山经](#)
- [东山经](#)
- [中山经](#)
- [海外南经](#)
- [海外西经](#)
- [海外北经](#)
- [海外东经](#)
- [海内南经](#)
- [海内西经](#)



香港科技大学
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY

HKUST Library / LibGuides / LANG 50'

LANG 5072 - English Books, Articles, & Data

This guide is to help students to get fam

[Start](#) [Topic > Questions](#)
[APA Style](#) [Help You Cite](#)

PowerSearch

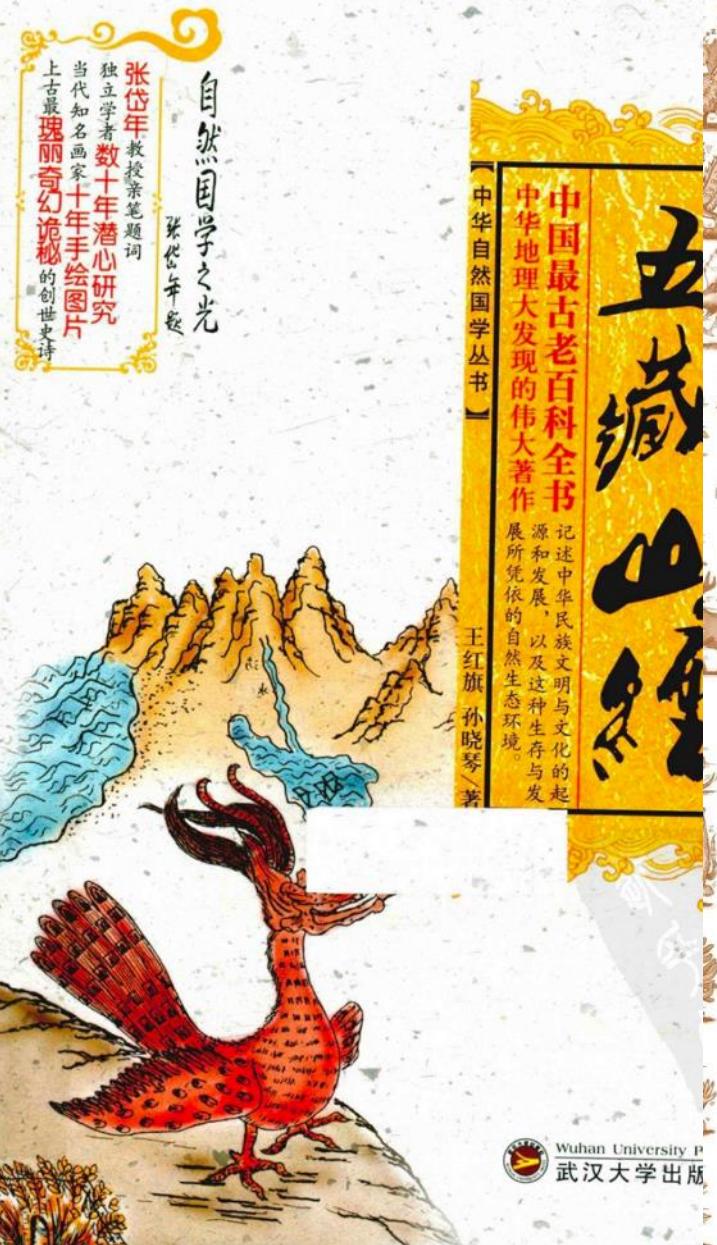
A good first place to start. HKU
(library + several other databases)

[Word/Phrase](#) [山海經](#)

[Library Catalog](#) [Articles+](#)

- For books only, choose Library Catalog
- Know the author (like Carolin...
◦ Use the drop-down menu)
- Know the title?
◦ Use the drop-down menu

[PowerSearch LibGuide](#)



<https://ctext.org/shan-hai-jing/ens>

<https://libguides.hkust.edu.hk/lang5072/books-articles-data>



02. Processing Humanities Data

A	B	C	D	E	F	G	H
分類	卷宗	文本	Location	Character	Monster	Treasure	
山經	《南山經》	<p>南山經之首曰崕山。其目曰招搖之山，臨于四海之正，多怪，多金玉。有旱焉，其狀如雉而青花，其名曰祝餘，食之不飢。有木焉，其狀如穀而黑理，其花四照，其名曰迷穀，佩之不迷。有獸焉，其狀如禺而白耳，伏行人走，其名曰狶狶，食之善走。麗澗之水出焉，而西流注于海，其中多育沛，佩之無瘕疾。</p> <p>又東三百里，曰堂庭之山，多棪木，多白猿，多水玉，多黃金。</p> <p>又東三百八十里，曰爰翼之山，其中多怪獸，水多怪魚，多白玉，多腹虫，多怪蛇，多怪木，不可以上。</p> <p>又東三百七十里，曰杻陽之山，其陽多赤金，其陰多白金。有獸焉，其狀如馬而白首，其文如虎而赤尾，其音如謠，其名曰鹿蜀，佩之宜子孫。怪水出焉，而東流注于憲翼之水。其中多玄龜，其狀如龜而鳥首虺尾，其名曰旋龜，其音如判木，佩之不聾，可以為底。</p> <p>東三百里抵山，多水，無草木。有魚焉，其狀如牛，陵居，蛇尾有翼，其羽在鰭下，其音如留牛，其名曰鯀，冬死而夏生，食之無腫疾。</p> <p>又東四百里，曰亶爰之山，多水，無草木，不可以上。有獸焉，其狀如狸而有髦，其名曰獮，自為牝牡，食者不妬。</p> <p>又東三百里，曰基山，其陽多玉，其陰多怪木。有獸焉，其狀如羊，九尾四耳，其目在背，其名曰搏讐，佩之不畏。有鳥焉，其狀如雞而三首六目，六足三翼，其名曰鵷鵷，食</p>					
		離山、招搖之山、堂庭之山、爰翼之山、基山	狶狶、鹿蜀	祝餘			

03. Analyzing Humanities Data: Word Cloud

```
# 创建词云对象并配置相关参数
wordcloud = WordCloud(font_path='NotoSansTCBlack.ttf', background_color='white')

# 生成词云图
wordcloud.generate_from_frequencies(word_frequencies)

# 显示词云图
plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')
plt.show()
```

Word cloud, initial version ➔

03. Analyzing Humanities Data: Word Cloud



```
# 加载山峰形状的图片
cloud_mask = np.array(Image.open('shanfeng.png'))

# 创建词云对象并配置相关参数
wordcloud = WordCloud(font_path='NotoSansTCBlack.ttf', background_color='white',
                       mask=cloud_mask)

# 生成词云图
wordcloud.generate_from_frequencies(word_frequencies)

# 根据图片颜色生成词云图的颜色
image_colors = ImageColorGenerator(cloud_mask)
wordcloud.recolor(color_func=image_colors)

# 显示词云图
plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')
plt.show()
```

03. Analyzing Humanities Data: Word Cloud



Shanfeng.png



Word cloud, second version →

03. Analyzing Humanities Data: Word Cloud

← → C wordclouds.com

Google 学术搜索 Books, Articles, &... Home | The Hong... 翻譯 科大 Z-Library – 世界上...

Mind clouds Word Clouds Youtube Trimmer Annotation

Select shape

Icons Colored Maps Text Upload

Search... (circle, bear)

The image shows a grid of weather-related icons, likely used for selecting shapes in a word cloud generator. The icons include various symbols such as suns, clouds, rain, snow, lightning, and other environmental elements. A specific icon, labeled "hill-sunny (ee63)", is highlighted with a light gray box.

<https://www.wordclouds.com/>

04. Visualizing Humanities Data: Word Cloud



Word cloud, final version

05. Analyzing Humanities Data: Annotation on full text

The Classic of Mountains and Seas has a total of eighteen chapters. Please choose the chapter you want to read:

《南山經》

《南山經》

《西山經》

《北山經》

《東山經》

《中山經》

《海外南經》

《海外西經》

《海外北經》

又東三百八十里，曰爰翼之山，其中多怪獸，水多怪魚，多白玉，多腹虫，多怪蛇，多怪木，不可以上。

又東三百七十里，曰杻陽之山，其陽多赤金，其陰多白金。

05. Analyzing Humanities Data: Annotation on full text

Installation

First install Streamlit (of course!) then pip-install this library:

```
pip install streamlit  
pip install st-annotated-text
```

```
cList = [name.strip() for name in df['Character']]  
        .astype(str).str.split('、').explode()  
        | if isinstance(name, str) and name.strip() and name.strip() != "nan" and len(name.strip()) > 1]  
cList = list(set(cList)) #remove duplicates within the list  
cList.sort(key=lambda x: len(x))  
if "禹彊" in cList:  
    cList.remove("禹彊") # remove to avoid conflict, monster list also have 禹彊  
if "顓頊" in cList:  
    cList.remove("顓頊") # remove to avoid conflict with 帝顓頊  
if "赤水女子獻" in cList:  
    cList.remove("赤水女子獻") # remove to avoid conflict with the location 赤水  
# check---- st.markdown(cList)
```

*With the help of Holly

06. Visualizing Humanities Data: Annotation on full text

Annotation on full text

Annotation color: Character Monster Treasure Location

山經 海經

[《南山經》](#) [《西山經》](#) [《北山經》](#) [《東山經》](#) [《中山經》](#)

南山 | Location 經之首曰 離山 | Location。其首曰 招搖之山 | Location，臨于 西海 | Location 之上，多桂，多金玉。有草焉，其狀如韭而青花，其名曰 祝餘 | Treasure，食之不飢。有木焉，其狀如穀而黑理，其花四照，其名曰迷穀，佩之不迷。有獸焉，其狀如禺而白耳，伏行人走，其名曰 猶猶 | Monster，食之善走。麗膚之水出焉，而西流注于海，其中多育沛，佩之無瘕疾。又東三百里，曰 堂庭之山 | Location，多棪木，多白猿，多水玉，多黃金。又東三百八十里，曰 猥翼之山 | Location，其中多怪獸，水多怪魚，多白玉，多腹虫，多怪蛇，多怪木，不可以上。又東三百七十里，曰 杞陽之山 | Location，其陽多赤金，其陰多白金。有獸焉，其狀如馬而白首，其文如虎而赤尾，其音如謠，其名曰 鹿蜀 | Monster，佩之宜子孫。怪水 | Location 出焉，而東流注于 憲翼之水 | Location。其中多玄龜，其狀如龜而鳥首虺尾，其名曰 旋龜 | Monster，其音如判木，佩之不

06. Visualizing Humanities Data: Full text

▶ 0:00 / 2:21



Full text of each chapter



《山海經》全書一十八篇，其中「山經」五篇，分別是《南山經》、《西山經》、《北山經》、《東山經》、《中山經》；「海經」八篇，分別是《海外南經》、《海外西經》、《海外北經》、《海外東經》、《海內南經》、《海內西經》、《海內北經》、《海內東經》；「大荒經」四篇，分別是《大荒東經》、《大荒南經》、《大荒西經》、《大荒北經》；以及「海內經」一篇。請選擇要閱讀的章節：

The Classic of Mountains and Seas has a total of eighteen chapters. Please choose the chapter you want to read:

《南山經》



南山經之首曰離山。

其首曰招搖之山，臨于西海之上，多桂，多金玉。

有草焉，其狀如韭而青花，其名曰祝餘，食之不飢。

有木焉，其狀如穀而黑理，其花四照，其名曰迷穀，佩之不迷。

To visit
online demo



Part Two

Comparison Between Maps

Presenter: WU Yutong

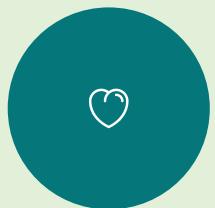
My research question:

How does the map in the *Classic of Mountains and Seas* correspond to the modern map?

W
U

W o r k f l o w

Finding a suitable map from the Internet



Uploading Map & Rectifying



Comparing Maps Using Python



Visualizing & Publishing Data



01.Finding a suitable map from the Internet



The first map I found

*With the help of teammate



The map I finally chose

02. Uploading Map & Rectifying

Map Warper

Logged in as: VVS FAVOURITES MY ACTIVITY SETTINGS LOG OUT ENGLISH (EN)

Home Browse All Maps Browse Rectified Maps Find Maps by Location Upload Map Browse All Mosaics Find Mosaics by Location Add Mosaic About Help

Home > Search > Maps > Map 82140

 **Shanhaijing**
Uploaded by vvs. Depicts: 2024 Last modified 5 days ago. 3 control points.
[Unfavourite](#) | [Download KML](#)
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Show Edit Rectify Crop Align Preview Export Metadata Activity Comments (0)

Signed in successfully.



02. Uploading Map & Rectifying

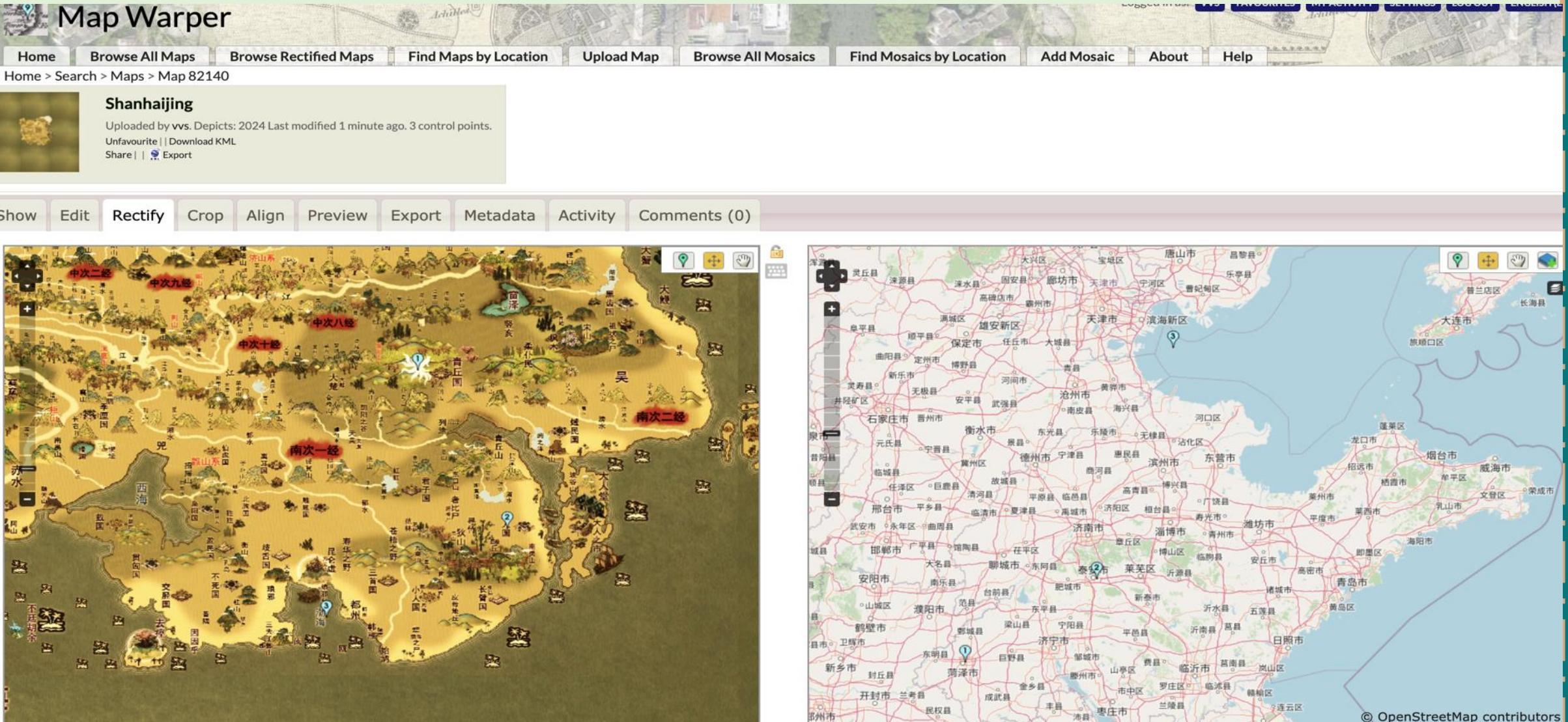
Map Warper

Home Browse All Maps Browse Rectified Maps Find Maps by Location Upload Map Browse All Mosaics Find Mosaics by Location Add Mosaic About Help

Home > Search > Maps > Map 82140

Shanhaijing
Uploaded by vvs. Depicts: 2024 Last modified 1 minute ago. 3 control points.
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Show Edit Rectify Crop Align Preview Export Metadata Activity Comments (0)



© OpenStreetMap contributors

03. Comparing Maps Using Python

```
# Overlay a historical map
overlayMap = "images/map3.jpg" # image path (in this s
imgSrc = rasterio.open(overlayMap)
overlayMapArray = imgSrc.read()

img = folium.raster_layers.ImageOverlay(
    name="historical map",
    image=np.moveaxis(overlayMapArray, 0, -1),
    bounds=[(10, 120), (50, 150)], # position that you
    opacity=0.7, # opacity of the overlay map
    interactive=True,
    cross_origin=False,
    zindex=1,
)
```

First attempt :
Overlaying historical map on modern map
Difficulties encountered

```
st.header("Comparison Between Maps")

image_comparison(
    img1="./images/map1.png", # local image 1
    img2="./images/map2.png", # local image 2
    label1="historical map",
    label2="modern map",
    width=800,
    starting_position=50,
    show_labels=True,
    make_responsive=True,
    in_memory=True,
)
```

Final decision :
Comparing the two maps directly from left to right

* With the help of Holly

04. Visualizing & Publishing Data

Comparison Between Maps



Introduction

"The Classic of Mountains and Seas" is an important ancient Chinese geographical and cultural work that records a vast amount of mythological legends, geographical information, and ancient people's understanding of the natural environment.

The correspondence between the geographical records in this book and modern geography can be attributed to the following reasons:

[Click here to view a demo](#)



Part Three

Categorization

Presenter: HAN Xuan Lucy

3. Categorization

Workflow

Purpose: To analyze different types of mythical creatures in the Classic of Mountains and Seas 《山海经》



Acquiring
Data from
Library



Processing
Data
Using
Excel



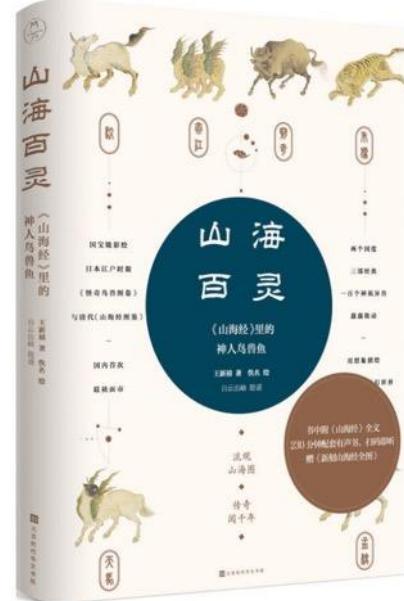
Analyzing
Data
Using
Python



Visualizing
&
Publishing
Data Using
Python &
Streamlit

3. Categorization

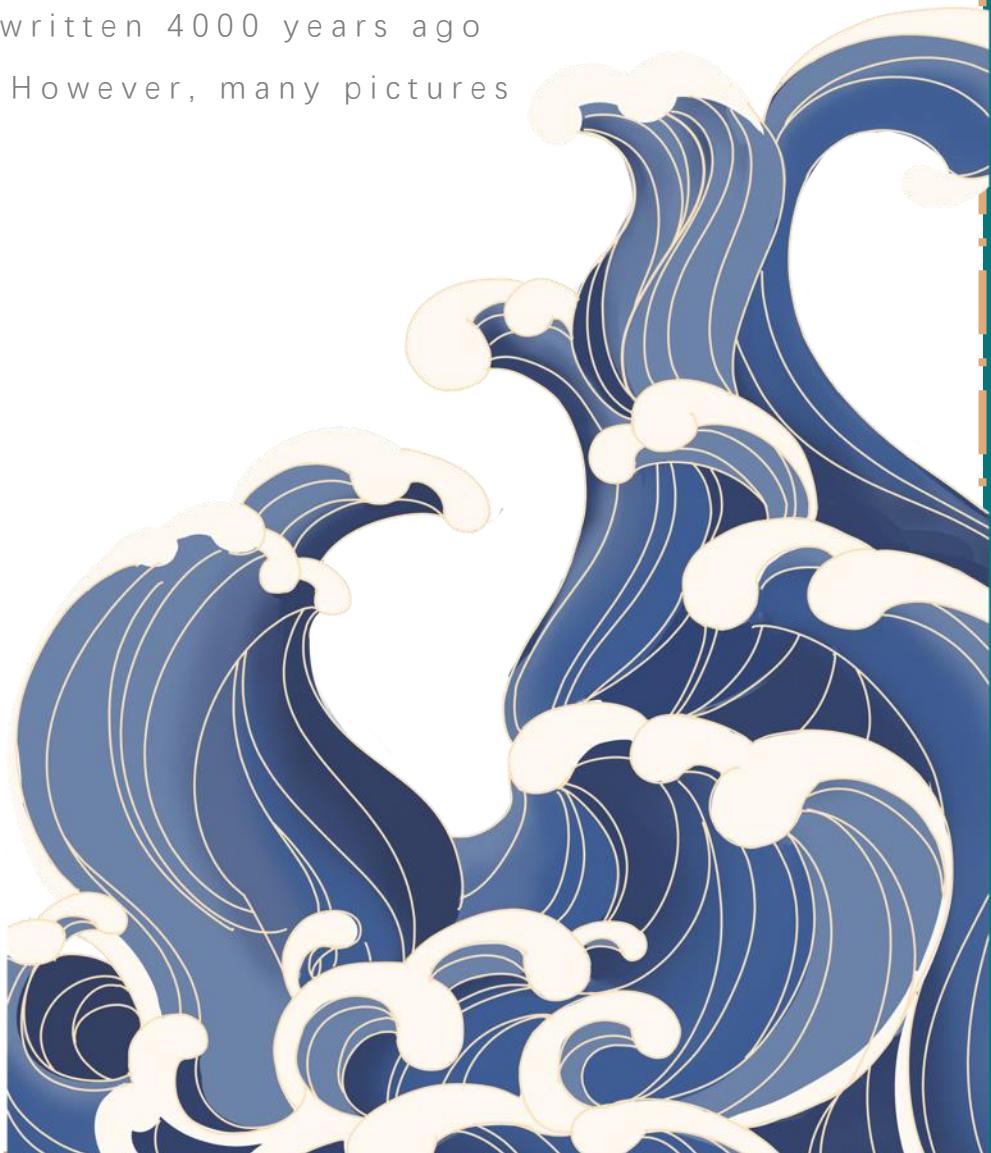
Workflow



Book: It contains different types of mythical creatures, including pictures, texts and explanations.

01.Acquiring Data from Library

Problem: The Classic of Mountains and Seas was written 4000 years ago and it records more than 450 mythical creatures. However, many pictures and text were lost in the later generations.



王新禧. (2018). 山海百灵
: 《山海经》里的神人鸟兽
鱼 = Shanhai bailing :
Shanhaijing lide shen
ren niao shou yu (第1
版.). 北京时代华文书局.

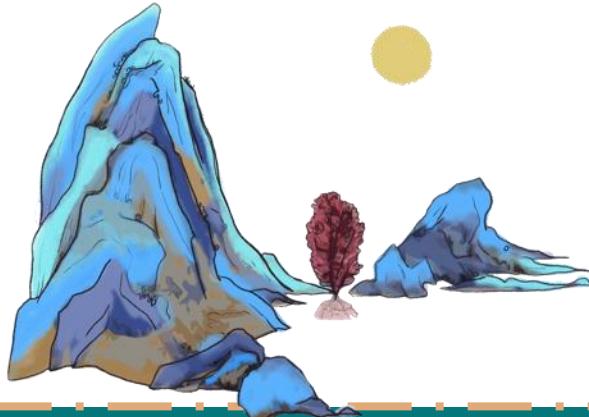
3. Categorization

Workflow

A	B	C	D	E	F	G	H
篇章	名字	原文	出處	譯釋	圖片	形容	
2 神祇篇	龍身人面神	凡南次三經之首，自天虞之山以至南禺之山，凡一十四山，六千五百三十里。其神皆龍身而人面。其祠皆一白狗祈，糈用稌。 ——《山海經·山經·南次三經》	《山海經·山經·南次三經》	南方的第三列山系，從天虞山到南禺山，共十四座山，行經六千五百三十里。這十四座山山神的樣子都是龍的身子人的臉，祭祀這些山神的時候，要殺一條白狗作為供品，祭祀用的米都是從稻米中精選出來的粳米。用白狗血塗抹祭祀用的祭器是一種古禮，而黑狗血則有辟邪功效，亦古已有之。		龍身而人面，司天虞山至南禺山凡一十四山。	
3 神祇篇	鼓	又西北四百二十里，曰鐘山，其子曰鼓，其狀如人面而龍身，是與欽鶴殺葆江於嵐嵩之陽，帝乃戮之鐘山之東曰鼈崖。欽鶴化為大鵠，其狀如雕而黑文白首，赤喙而虎爪，其音如晨鶴，見則有大兵。鼓亦化為鵠鳥，其狀如鵠，赤足而直喙，黃文而白首，其音如鵠，見則其邑大旱。 ——《山海經·山經·西次三經》	《山海經·山經·西次三經》	《西次三經》記載，從泰山向西北四百二十里，是鐘山。鐘山山神燭陰（獨龍）的兒子名叫鼓，有著人的面孔和龍的身體，有一次鼓和天神欽合謀，在嵐嵩山之南殺死了名為葆江的天神。天帝知道後大為震怒，下令將他們處死於鐘山東邊的鼈崖。欽鶴死後化為大鵠，有著白色的腦袋，身上有黑色紋路，紅色的嘴巴，老虎般的爪子，叫聲像晨鶴，它一出現天下就會有戰亂。鼓死後則化為鵠鳥，形狀像鵠鷹，長著紅色的腳和直直的嘴，白色的頭，身上有黃色斑紋，聲音也像鵠，相傳它出現在哪裡那裡就會有旱災。 《山海經》記載西北有鐘山，天帝曾殺欽鶴與鼓，二神死後化為鵠與鳥，鳴聲如鵠，預兆有兵禍旱災。後遂用為世間戰亂、災荒之典。唐吳融《綿竹山四十韻》：「但樂濛梁魚，豈怨鐘山鵠。從秦器山再向西三百二十里，是槐江山。丘時水就發源於此。」		人面龍身，居鐘山。	

Excel file:

'./data/mythical_creatures.xlsx'



02.Processing Data Using Excel

Action: As this book is a PDF document, differentiate its content based on creatures' origins, name of creatures, text, chapters, explanations, images, and descriptions, and fill them into an Excel file for convenient analysis in subsequent operations.

3. Categorization

W o r k f l o w

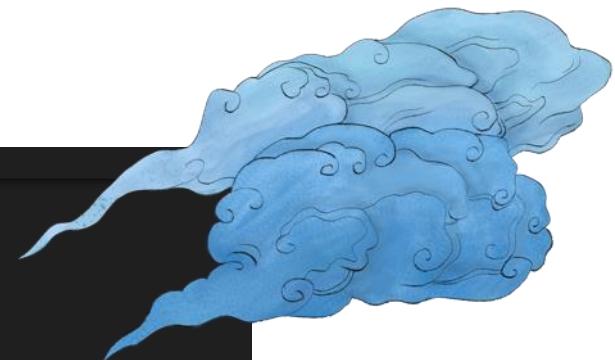
03.Analyzing Data Using Python

Action:

1. Count how many mythical creatures in the book of <ShanHai BaiLin>
2. Using chart to show the distribution of mythical creatures
3. Categorize the mythical creatures in the book
*With the help of ChatGPT

```
pages > 3_Categorization.py > ...
146 ######
147 # Chart - Chapters & Origins
148 #####
149 st.markdown('## Pie Chart Showing the Distribution of Mythical Creatures in the Book')
150
151 # Count the occurrences of each language
152 origins_counts = data['篇章'].value_counts()
153
154 # Create a DataFrame from the counts
155 df_origins = pd.DataFrame({'篇章': origins_counts.index, 'Count': origins_counts.values})
156
157 # Create a pie chart using Plotly Express -- Based on Origins
158 fig_origin = px.pie(df_origins, values='Count', names='篇章', title= 'Distribution of Mythical Creatures Based on Origins')
159 # Count the occurrences of each origin
160 origin_counts = data['出處'].value_counts()
161
162 # Create a DataFrame from the counts
163 df_chapter = pd.DataFrame({'出處': origin_counts.index, 'Count': origin_counts.values})
164
165 # Create a pie chart for the origin using Plotly Express -- Based on Chapters
166 fig_chapter = px.pie(df_chapter, values='Count', names='出處', title='Distribution of Mythical Creatures Based on Chapters')
167 # Create two columns
168 col1, col2 = st.columns([1, 1])
```

Python file: './pages/3_Categorization.py'



04. Visualizing & Publishing Data Using Python & Streamlit

Action:

1. Visualizing Data by importing Streamlit libraries into python
2. Improving UI design of the website
*with the help of ChatGPT & Holly

3. Categorization

W o r k f l o w



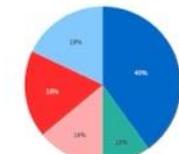
Total number of mythical creatures in the book of 《山海百靈》

No. of mythical creatures
100

There are a total of 100 mythical creatures in this book.

Chart

Distribution of Mythical Creatures



Categorization

选择篇章

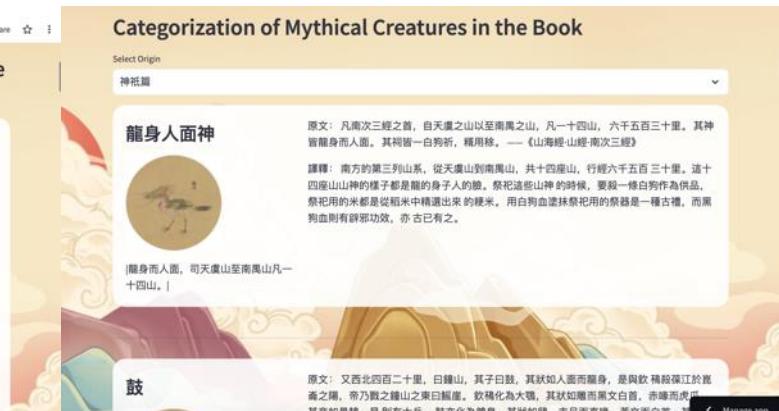
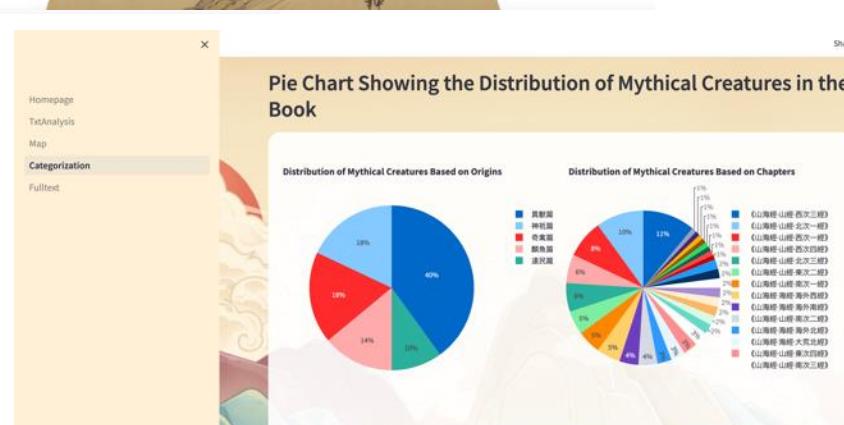
神祇篇

龍身人面神

原文：凡南次三經之首，自天虞山以至南禺之山，凡一十四山，六千五百三十里。其神皆龍身而人面，其祠皆一白狗折，糈用稌。——《山海經·山經·南次三經》
譯釋：南方的第三列山系，從天虞山到南禺山，共十四座山，行程六千五百三十里。這十四座山山神的樣子都是龍的身子人的臉。祭祀這些山神的時候，要殺一隻白狗作為供品，祭祀用的米都是從稻米中精選出來的糙米。用白狗血塗抹祭祀用的器皿是一種古禮，而黑狗血則有辟邪功效，亦古已有之。

pages > 3_Categorization.py > ...

```
1 #####  
2 # import python libraries  
3 #####  
4 import streamlit as st  
5 import pandas as pd  
6 import plotly.express as px  
7 import base64  
8
```



Click here to see the Demo

5. Project Challenges

5. Challenges

- Language Barrier:

Challenge in translating it into English accurately

- Complex Geographic Descriptions:

Challenge in mapping out the locations mentioned in the text and gaining a comprehensive understanding of the ancient mythological world.

- Technical Difficulties:

The use of various techniques, such as word cloud, mapping, and data analysis, may pose technical difficulties for the project. This include issues with data accuracy, and visualization design.



6. Future Improvement

Develop a Digital Game about the Classic of Mountains and Seas

Interaction and User Engagement

Create an interactive game where users can participate, such as solving puzzles, answering quizzes, or engaging in role-playing.

Multi-language Support

Consider translating the website content into multiple languages to reach a wider audience and promote Chinese culture to the world.

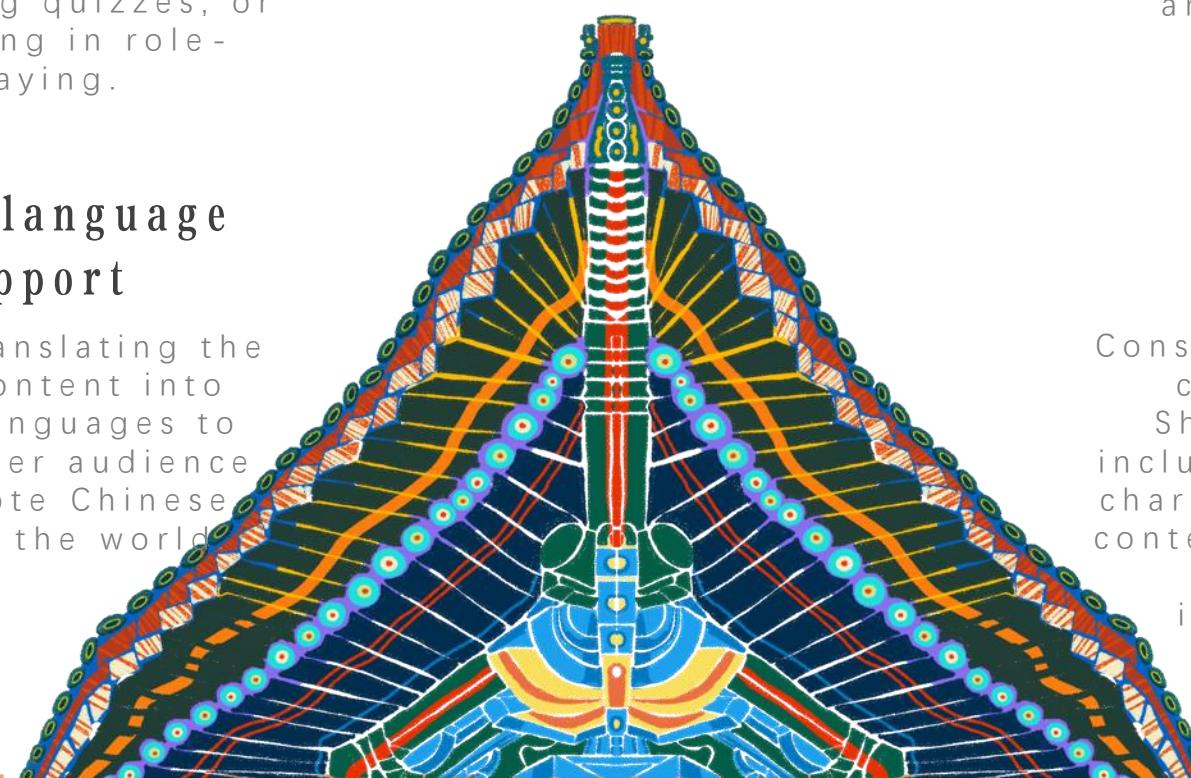


VR Experience

Create a VR application where users can explore the world of Shanhai Jing, observe creatures, and visit different landscapes.

Content Diversification

Consider adding more diverse content related to the Shanhai Jing. This could include story interpretations, character analyses, historical context, and more, to provide a comprehensive and immersive experience.





H U M A 5 6 3 0

T h a n k Y o u !

Group 3