COURSE PROJECT

OBSERVATIONS FROM PLACES & THEIR NAMES

WEEK 1 - INITIALIZATION





BACKGROUND & CONTEXTANALYSIS

选题背景与动机 / ANALYSE DE CONTEXTE







9

Al Kharj (Middle-East)
Thanh Quang Ngai (East-Asia)
Salzhemmendorf (Europe)

PROBLEM DESCRIPTION

问题描述 / DESCRIPTION DU PROBLÈME



STATS & INSIGHTS

- Where are the most densely named areas?
- Which country has the longest average placename length?
- What's the closest pair of places that shares the same names?
- Does the names containing specific prefixes have limited distribution areas?

LOCATION PREDICTION

- Regression Predicting exact coordinates
- Classification Predicting which country / continent / geographical area it belongs to
- Clustering Determining the "Geographical Area" mentioned above



```
3040051 les Escaldes
                                                  les Escaldes
                                                                                  Ehskal'des-Ehndzhordani, Escaldes, Escaldes-Engordany, Les Escaldes, esukarudesu=engorudani jiao qu,
                                                                                                   ALV, Ando-la-Vyey, Andora, Andora la Vela, Andora la Velja, Andora lja Vehl'ja, Andoro Malnova
3041563 Andorra la Vella
                                                          Andorra la Vella
                Umm al Qaywayn Umm al Qaywayn Oumm al Qaiwain,Oumm al Qaïwaïn,Um al Kawain,Um al Quweim,Umm al Qaiwain,Umm al Qawain,Umm al Qa
                Ras al-Khaimah Ras al-Khaimah Julfa.Khaimah.RKT.Ra's al Khaymah.Ra's al-Chaima.Ras al Khaimah.Ras al-Khaimah.Ras el Khaimah.Ras
                Khawr Fakkan
                                                  Khawr Fakkan
                                                                                   Fakkan, Fakkān, Khawr Fakkan, Khawr Fakkān, Khawr al Fakkan, Khawr al Fakkān, Khor Fakhan, Khor Fakkan, I
291696
                                                 DXB,Dabei,Dibai,Dibay,Doubayi,Dubae,Dubai,Dubai emiraat,Dubaija,Dubaj,Dubajo,Dubajus,Dubay,Dubay,Dubai,Dubái,Dúl
292223
                Dubai
                                 Dubai
                دا الفحيرة 25.59246 ما الفحيرة Dibba Al-Fujairah Dibba Al-Fujairah Al-Fujairah, BYB, Dibba Al-Fujairah, dba alfjyrt, 56.26176 الفحيرة
                Dibba Al-Hisn Dibba Al-Hisn BYB, Daba, Daba al-Hisn, Dabā, Dabā al-Ḥiṣn, Diba, Diba al Hisn, Dibba, Dibba Al'-Khisn, Dibba Al-H:
292239
                Sharjah Sharjah Al Sharjah, Ash 'Mariqah, Ash Shariqa, Ash Shariqah, Ash Shāriqah, Ash 'Mariqah, Ash-Shariqah emiraat, Ash-
                Ar Ruways Ar Ruways Ar Ru'ays,Ar Ruways,Ar Ru'ays,Ar-Ruvais,Ruwais,Ap-Руваис 24.11028
                                                                                                                                                                                                                       52.73056
                                                                                                                                                                                                                                                P PPL AE AE 01
                Al Fujayrah Al Fujayrah Al Fujayrah, Al-Fudjayra, Al-Fujayrah' emiraat, FJR, Fudschaira, Fudzhejra, Fujaira, Fujairah, Fujajro, Fujayrah, I
                Al Ain Al Ain AAN, Ainas, Al Ain, Al Ajn, Al Ayn, Al `Ayn, Al Eayn, Al 'Ayn, Al-Ain, Al-Ayn, Al-Ayn, Al-Ayn, Al-Ayn, Al-Ayn, El-Ajn, El Ain, El-Ajn
292932
                Ajman Ajman Ajman, Al Ajman, QAJ, Ujman, 'jman, 55, 43504
                                                                                                                                           25.41111
                                                                                                                                                                   عجمان
                                                                                                                                                                                      P PPLA
                                                                                                                                                                                                                                02
                                                                                                                                                                                                                                                                  226172
                Adh Dhayd Adh Dhayd Adh Dhaid, Adh Dhayd, Al Daid, Al-Dhayd, Dayd, Dhaid, Dhayd, Dhayd, Ihaid, aldhyd, النب , Dayd
                                                                                                                                                                                                                                                         25.28812
                Abu Dhabi Abu Dhabi A-pu-that-pi,AEbu Saby,AUH,Aboe Dhabi,Abou Dabi,Abu Dabi,Abu Dabis,Abu Daby,Abu Daibi,Abu Dhabi,Abu Dhabi
1120985 Zaranj Zaranj Sarandsch, ZAJ, Zaranas, Zarandj, Zarandz, Zarandzas, Zarandż, Zarandżas, Zarang, Zaranj, Zaranj, Zaranĝ, Zerenc, Zh
1123004 Talogan Talogan Khanabad, TQN, Taikhan, Talegan, Talikan, Talikhan, Taligan, Talkan, Talokan, Talogan, Talugan, Talukan, Talukanas, Talugan, Tu
1125155 Shindand
                                                                  Asfazar, Asfazār, OAH, Sabzayar, Sabzayār, Sabzawar, Sabzevar, Shindand, Shi
                                          Shindand
1125444 Shibirghan Shibirghan Markaz-e Wilayat-e Shibirghan, Markaz-e Wilayat-e Shibirghan, Seberghan, Seberghan, Shahr-e Sheberghan, Shahr-
1125896 Shahrak Shahrak Bati Dara, Kala Shaharak, Kala Shahrak, Kala Shahārak, Markaz-e Shahrak, Qal`eh Shaharak, Qal`eh-ye Bati Darrah, Qala Ba
1127110 Sar-e Pul Sar-e Pul Sar-e Pol, Sar-e Pul, Sar-i-Pul, Sari-Pul', sr pl, Сари-Пуль, 65.93249
                                                                                                                                                                                                              36.21544
                                                                                                                                                                                                                                     سر یل
                                                                                                                                                                                                                                                         P PPLA
1127628 Sang-e Chārak Sang-e Charak Sang-e Chārak 35.84972
                                                                                                                                                                     66.43694
                                                                                                                                                                                              P PPL AF
                                                                                                                                                                                                                               33 3102
                                                                                                                                                                                                                                                                          15377
                                 Aibak
                                                 Aibak, Aybak, Aībak, Eybak, Haibak, Samagan, Samangan, Samangān, aybk, smngan, Āybak, Саманган, 68.01551
                                                                                                                                                                                                                                                         36.26468
Rustāq Rustaq Rostaq, Rostāq, Rustak, Rustaq, Rustāq, rstaq, رستاق, Rustāq 37.12604,
                                                                                                                                                                                               69.83045
                                                                                                                                                                                                                                PPLA2 AF
                                                                                                                                                                                                                                                                  26 1208
1129516 Qarqin Qarqin Karkin, Karkin Bazar, Kkhanika, Qarkin, Qarqin, Qarqin, Quarkin, qrqyn, Кханика, 66.04358
                                                                                                                                                                                                                               37.41853
                                                                                                                                                                                                                                                                                PPLA
                                                                                                                                                                                                                                                    قرقين
1129648 Qarāwul Qarawul Hazrat Imam, Hazrat Imam Saiyid, Hazrat Imām, Karaul, Qaravol, Qarawul, Qarāvul, Qarāwul, Qarāwul, Qarāwul, Qarāwul, Garawul, Garawu
                                                                                                                                                                                                                                                                               37.21!
                                                                                  Pol-e Khomri,Pol-e Khomri,Pul-e Khumri,Pul-i-Khomri,Pul-i-Khomri,Pul-i-Khumri,Pule Klumri,Pule Kl
1130490 Pul-e Khumrī
                                                 Pul-e Khumri
1131316 Paghmān Paghman Paghman, Paghman Palace, Paghmān, Pagman, pghman, Пагман, 68.95091
                                                                                                                                                                                      يغمان 34.58787
                                                                                                                                                                                                                                P PPL AF
                                                                                                                                                                                                                                                                  13 108
نيرين Nahrin Nahrin Nahrin, Nahrin, Nakhrin, Narain, Narin, Narin, nhryn, Haxpun, 36.0649 69.13343 نيرين
                                                                                                                                                                                                                      P PPLA2 AF
                                                                                                                                                                                                                                                                  03 1309
```

1133453 Maymana Maymana Daerah Maymana, MMZ, Maimana, Maimanah, Maimana, Majmana, Maymanah, Maimanah, Maimanah, Meimana, Mejmene, Meymaneh, Me 1133574 Mehtar Lām Mehtar Lam Laghman, Mehtar Lam, Mehtar Lām, Mekhtarlam, Metarlam, Mir Talam Saheb Ziarat, Mitarlam, Miterlam, Mīr Talām Şāḥ

AF

نگان

DIFFICULTIES

难点 / DES DIFFICULTÉS





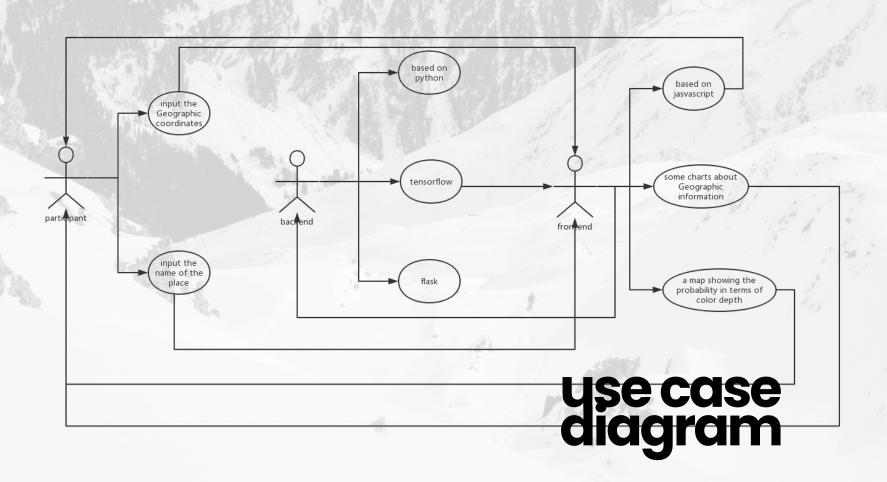
PROBLEMS WE MIGHT ENCOUNTER...

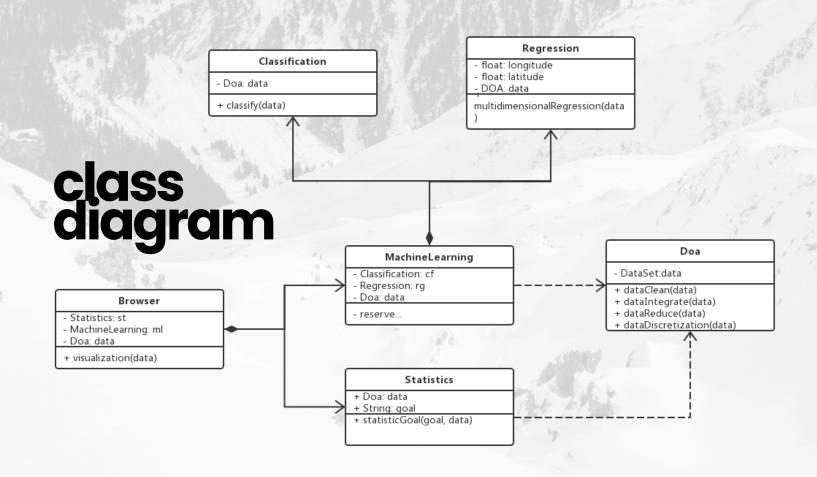
- Converting strings into columns of data / matrix
- Regression to multi-dimensional data
- Polar coordinates
- Possible low accuracy / performance
- · More to come...

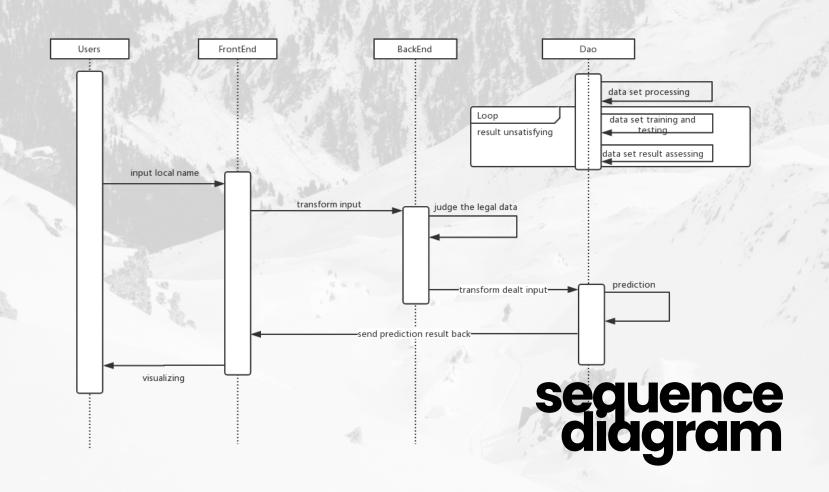
UMLDIAGRAMS NAIVE VERSION

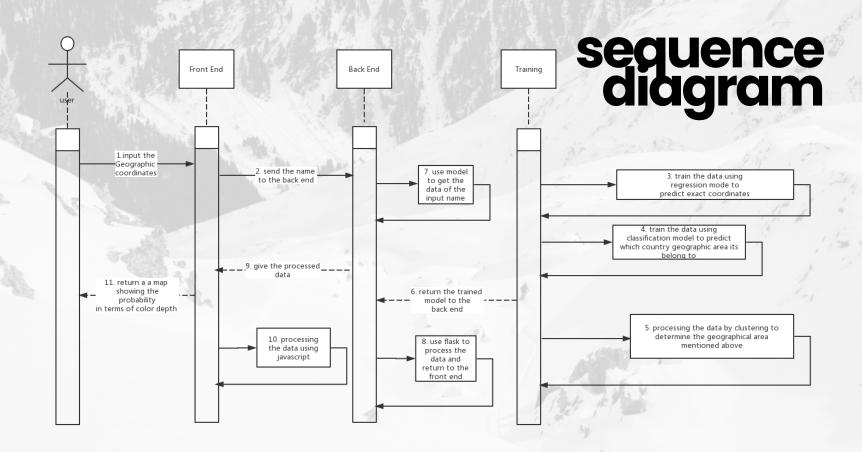
初版 UML 建模图 / DIAGRAMMES UML





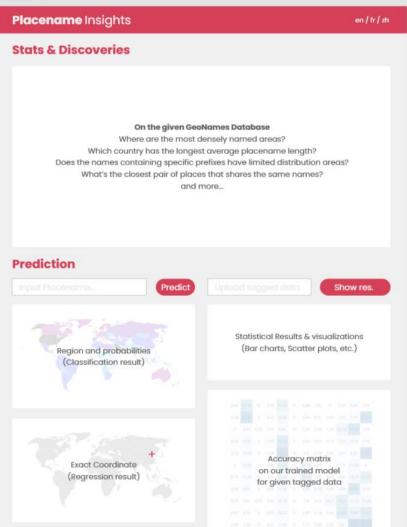






GRAPHICAL USER INTERFACE





TASKSFOR EACHSTUDENT

Zhou Jingtao

User Interface design, front-end programming

Liu Chunyang

Classification Model training, API backend programming

Zhang Huanyu

Regression Model training, visualization

Wang Huimin

Clustering, Statistics, visualization





THANKS FOR YOUR TIME

