

THE DISTRIBUTION OF CORONAVIRUS IN CHINA  
AND  
WHETHER THE SPREAD OF THE VIRUS IS RELATED TO  
THE POPULATION AND GDP OF PROVINCES

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# WHAT IS CORONAVIRUSES?

- CORONAVIRUSES (CoV) ARE A LARGE FAMILY OF VIRUSES THAT CAUSE ILLNESS RANGING FROM THE COMMON COLD TO MORE SEVERE DISEASES SUCH AS MIDDLE EAST RESPIRATORY SYNDROME (MERS-CoV) AND SEVERE ACUTE RESPIRATORY SYNDROME (SARS-CoV). CORONAVIRUSES ARE ZOONOTIC, MEANING THEY ARE TRANSMITTED BETWEEN ANIMALS AND PEOPLE. THIS REPORT WILL FOCUS ON A NOVEL CORONAVIRUS THAT HAS NOT BEEN PREVIOUSLY IDENTIFIED IN HUMANS, CORONAVIRUS DISEASE 2019, FIRST DISCOVERED IN WUHAN, HUBEI PROVINCE, CHINA.



# SOURCE OF THE DATA

- THE MINISTRY OF HEALTH OF EACH PROVINCE PUBLISHES THE LATEST CONFIRMED DIAGNOSIS DAILY ON THE OFFICIAL WEBSITE.
- FOURSQUARE LOCATION DATA
- SINA.COM
- GOOGLE.CA



## METHODOLOGY AND DATA ANALYSIS

- ALL PROVINCES WITH CONFIRMED CASES WILL BE DISPLAYED ON THE MAP, AND WHEN THE USER CLICKS ON A MARKER, THE MAP WILL SHOW THE NAME OF THE CORRESPONDING PROVINCE AND THE NUMBER OF CONFIRMED PEOPLE.
- THE DATA I USED IN THE FOLLOWING PICTURE IS THE EPIDEMIC DATA ON FEBRUARY 24, 2020.





# METHODOLOGY AND DATA ANALYSIS(CON'T)

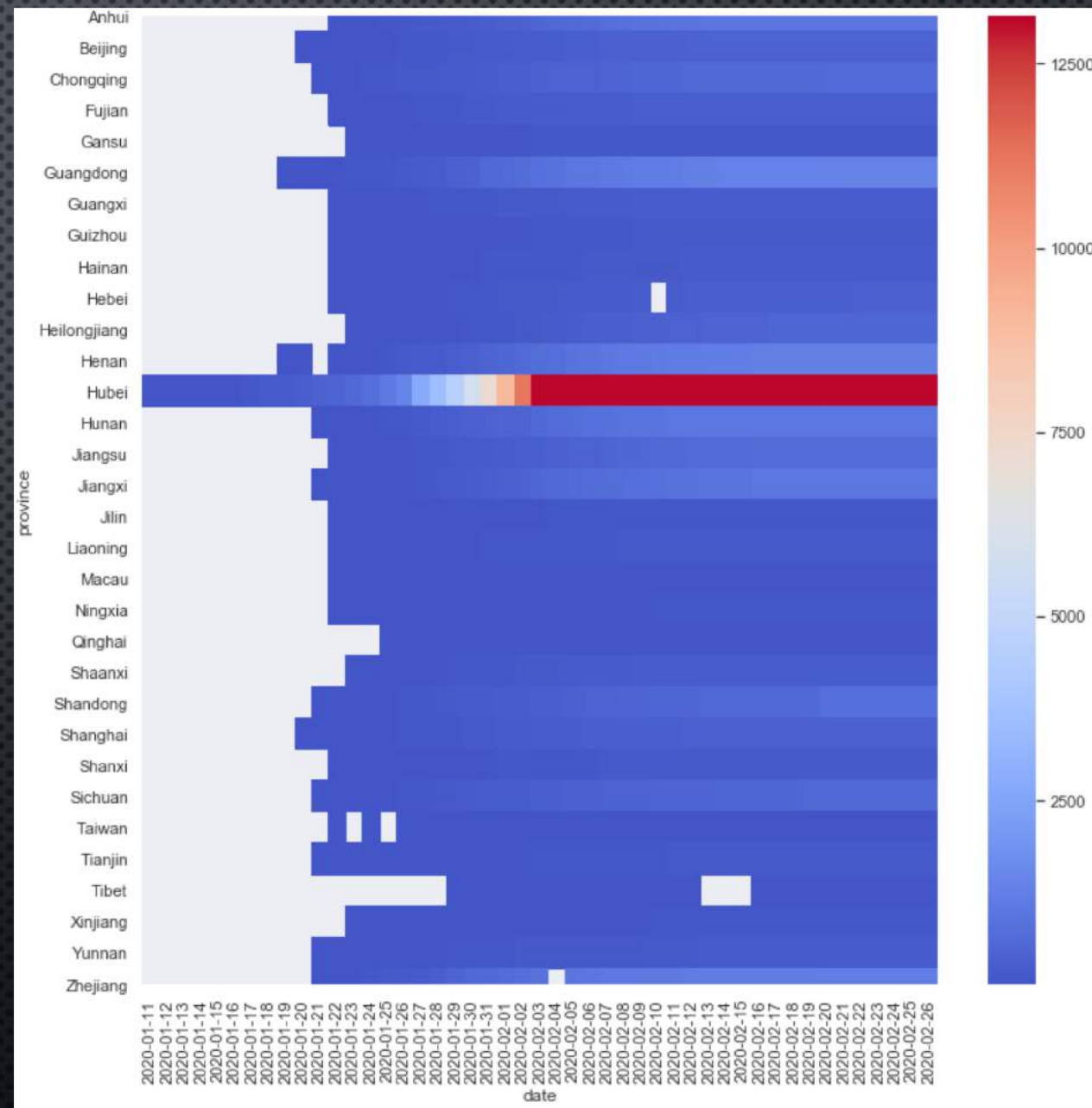
- THROUGH THE OBSERVATION OF HEATMAPS, WE CAN FIND THAT IN THE PAST TWO MONTHS, THE HIGH INCIDENCE OF CORONAVIRUS IN CHINA IN 2019 WAS MAINLY CONCENTRATED AROUND HUBEI AND JIANGSU.





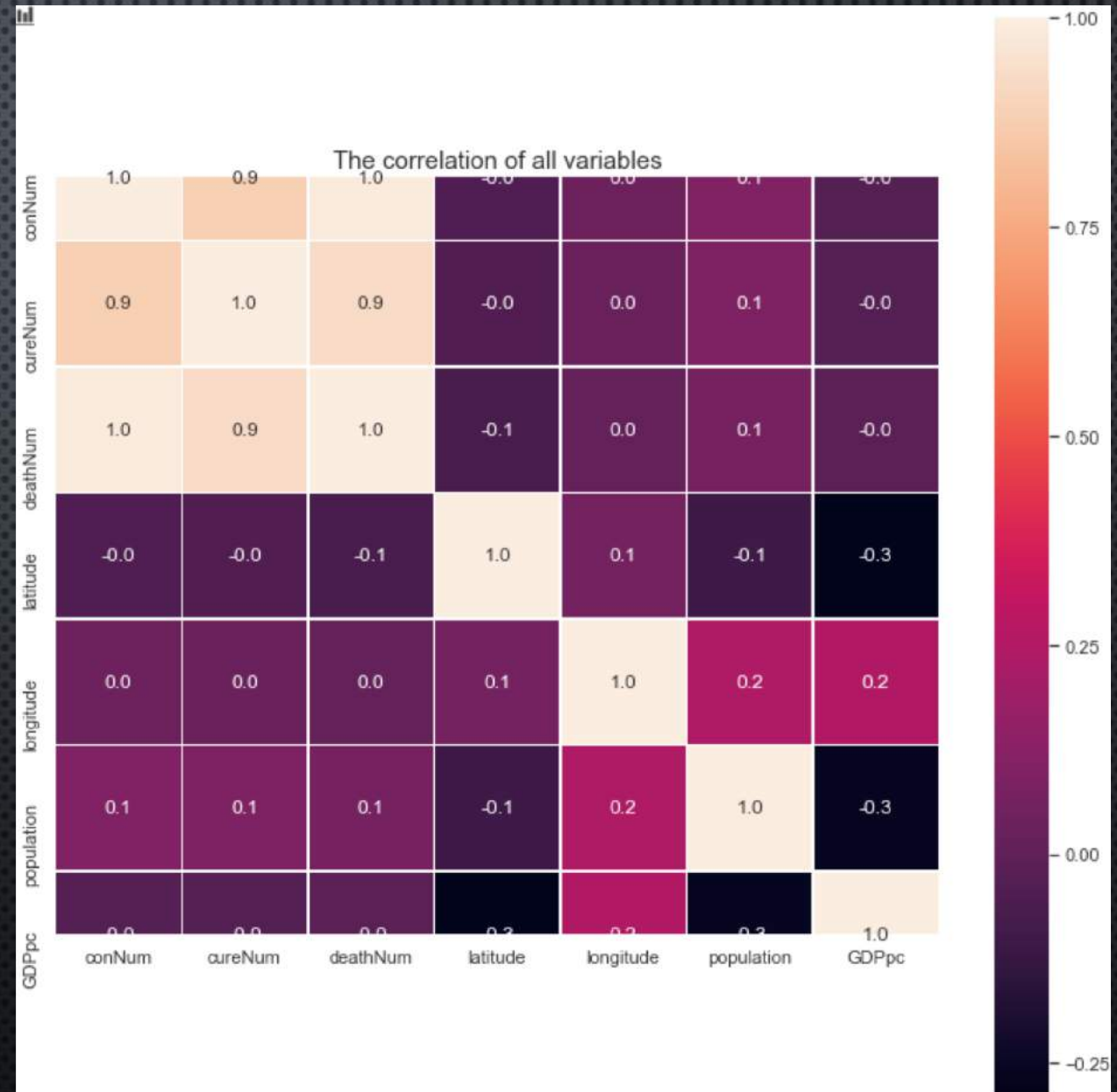
# METHODOLOGY AND DATA ANALYSIS(CON'T)

- FROM THE NUMBER OF CONFIRMED CASES, THE NUMBER OF PEOPLE IN HUBEI PROVINCE IS MUCH HIGHER THAN IN OTHER PROVINCES, AND THERE IS A SURGE IN THE NUMBER OF PEOPLE IN LATE JANUARY AND EARLY FEBRUARY.



# METHODOLOGY AND DATA ANALYSIS(CON'T)

- FROM THE PERSPECTIVE OF CORRELATION, THE NUMBER OF CONFIRMED PATIENTS, THE NUMBER OF CURED PATIENTS AND THE NUMBER OF DEATHS HAVE A VERY HIGH POSITIVE CORRELATION.
- HOWEVER, FROM THE ANALYSIS OF CURRENT DATA, IT IS DIFFICULT TO SEE THE IMPACT OF POPULATION AND GDP ON VIRUS TRANSMISSION.





# CONCLUSION

- THAT THE HIGH AND FREQUENT AREAS OF CORONAVIRUS IN CHINA IN JANUARY AND FEBRUARY 2020 WERE MAINLY CONCENTRATED IN HUBEI PROVINCE.
- THE NUMBER OF CONFIRMED PATIENTS INCREASED SIGNIFICANTLY AT THE END OF JANUARY AND EARLY FEBRUARY.
- THE IMPACT OF POPULATION AND GDP ON THE NUMBER OF DIAGNOSES CANNOT BE SEEN FROM THE CURRENTLY LIMITED DATA.