USING AI AND DIGITAL CONTACT TRACING TO FIGHT THE COVID-19 PANDEMIC

Digital Contact Tracing COVID-19 - Fortaleza, Brazil
kcore-analytics.com/covid

General objective

A partnership between 10+ academics led by City College of New York and business leaders in the advertisement community are tracking millions of data points from mobile phone calls, GPS apps data, Bluetooth signals, public transportation and social media to fight the coronavirus pandemic using machine learning and artificial intelligence.

Our objective is to perform digital contact tracing to halt the spreading of the pandemic at the city, state, and nation-wide level. We identify red zones with high probability of infection to help policy makers improve social distancing protocols and directed quarantines.

Our approach

We collect data from the listed sources and crosscheck them with local health authorities reports with confirmed cases of COVID-19. We then run our algorithms to construct contact networks of individuals to determine the super-spreaders of the epidemic.

Core team

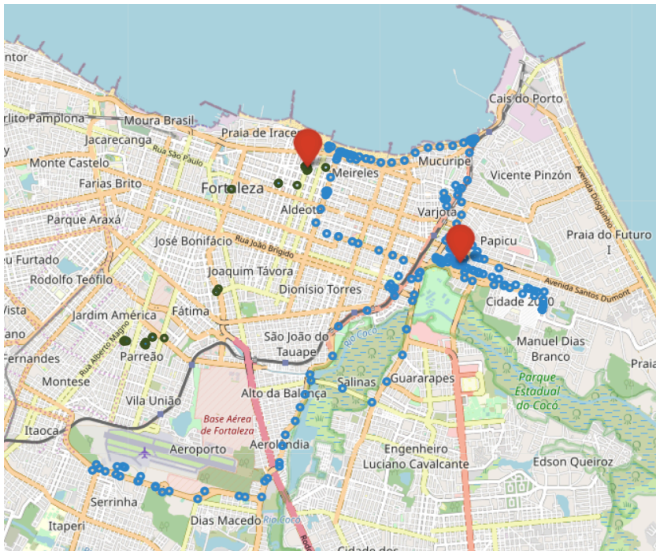
- ✓ Prof. Hernan Makse, CCNY & Kcore Analytics
- ✓ Prof. Jose Soares de Andrade, UFC, Brazil
- ✓ Matias Travizano, GranData
- ✓ Prof. Mariano Sigman, Di Tella U, Argentina

Our trial case

We initiated our analysis with the City of Fortaleza in Brazil. We identify red zones and perform digital contact tracing. A sample of a daily trajectory and location of two infected people are shown in the figure. Results are shared through an App used by local citizens in Fortaleza.

Interested parties need

We require **anonymized list of infected patients** from the Health Department in the location analyzed and the geo-localized location of patient's households.



Interested parties

We aim to provide this analysis in real time to effectively identify sources of potential contagion and to track the epidemic. Interested parties may include:

- ✓ **Authorities** looking to identify sources of infection, target infected groups and propose effective measures to halt/slow down the spreading of COVID-19 in cities or countries, regardless of the status of the spread
- ✓ **Companies** looking to access and evaluate the geographic effects of governmental actions in order to contain the spreading of COVID-19
- ✓ **Citizens** keen on learning if they have been in contact with infected people
- ✓ **Researchers** interested in investigating how the coronavirus is spreading.

Data sources

Our collected data include the following sources:

- ✓ Mobile phone location and GPS app data in Latin America
- ✓ Social media activity such as Twitter
- ✓ Bus transit data regarding the user-route information
- ✓ Bluetooth signals between mobile phones.

Contact us

For further information please email: Prof. Hernan Makse at hmakse@kcore-analytics.com.