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REAL-TIME DATA ANALYTICS AND PREDICTION OF THE COVID-19 PANDEMIC

(PERIOD TO JUNE 9TH, 2020)

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Abstract

This brief paper is versioned 8 in a series of short papers that describe a set of descriptive and predictive analytics of the pandemic COVID-19 around the world. We exceptionally propose this new and uncommon way of publications because of the current emergency circumstances where Data are gathered and analyzed directly day by day. Because of the new behavior regarding the spread speed and the contagion features of this virus, we opted by comparative analytics based on demographic characteristics in localities and countries for prediction, without using historical data in epidemiology. The test proofs of our findings are done day by day with the real figures reported from the Data. To feed our models in algorithms, we refer to the reported cases from the Data of the World Health Organization (WHO). Because of the current circumstances of emergency, this paper is brief and will be succeeded with a series of versions until the end of the pandemic. The full paper will be published afterward with more details about the functions, the model, and the variables included in our algorithms.

List of our previous papers (preprints) in this special series about COVID-19

[1]	S. C. Gamoura, «Real-time Data Analytics and prediction of the COVID-19 pandemic (Period to March 22th, 2020),» <i>Published on March 22, 2020 - DOI: https://doi.org/10.13140/RG.2.2.33995.13607</i>
[2]	S. C. Gamoura, «Real-time Data Analytics and prediction of the COVID-19 pandemic (Period to March 26th, 2020),» <i>Published on March 26, 2020 - DOI: https://doi.org/10.13140/RG.2.2.12574.69444</i>
[3]	S. C. Gamoura, «Real-time Data Analytics and prediction of the COVID-19 pandemic (Period to March 28th, 2020),» <i>Published on March 28, 2020 - DOI: https://doi.org/10.13140/RG.2.2.25996.46726</i>
[4]	S. C. Gamoura, «Real-time Data Analytics and prediction of the COVID-19 pandemic (Period to April 2nd, 2020),» <i>Published on April 02, 2020 - DOI: https://doi.org/10.13140/RG.2.2.36777.13921</i>
[5]	S. C. Gamoura, «Real-time Data Analytics and prediction of the COVID-19 pandemic (Period to April 4th, 2020),» <i>Published on April 04, 2020 - DOI: https://doi.org/10.13140/RG.2.2.16238.15686</i>
[6]	Real-time Data Analytics and prediction of the COVID-19 pandemic (Period to April 10th, 2020). <i>Published on April 10, 2020 - DOI: https://doi.org/10.13140/RG.2.2.26379.03367</i>
[7]	Real-time Data Analytics and prediction of the COVID-19 pandemic (Period to April 13th, 2020). <i>Published on April 13, 2020 - DOI: https://doi.org/10.13140/RG.2.2.33807.53926</i>

Online Prediction and Dataset in Algeria

Based on algorithm already published in our preprints ([7], [6], [5], [4], [3], [2], [1]), I developed a web application to follow in real-time the prediction and contagion factor computing in Algeria:

<https://apex.oracle.com/pls/apex/domicile/r/algeria-prediction-331190/tableau-de-bord?session=718011123693260>

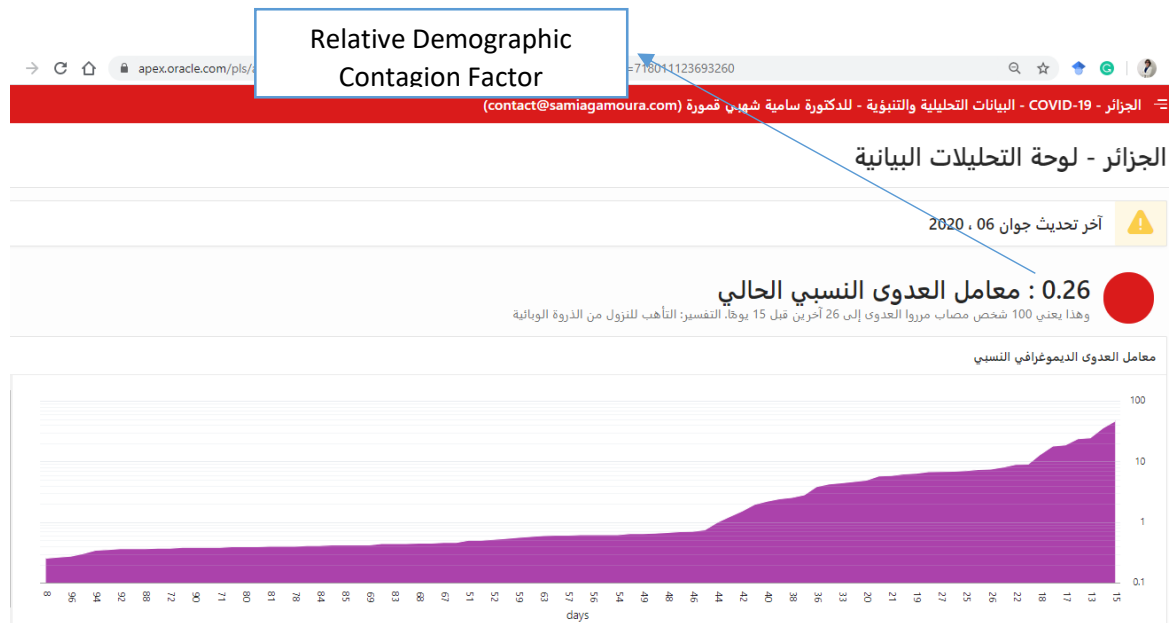


Figure 1. Our Relative Demographic Contagion Factor (computed in real time)

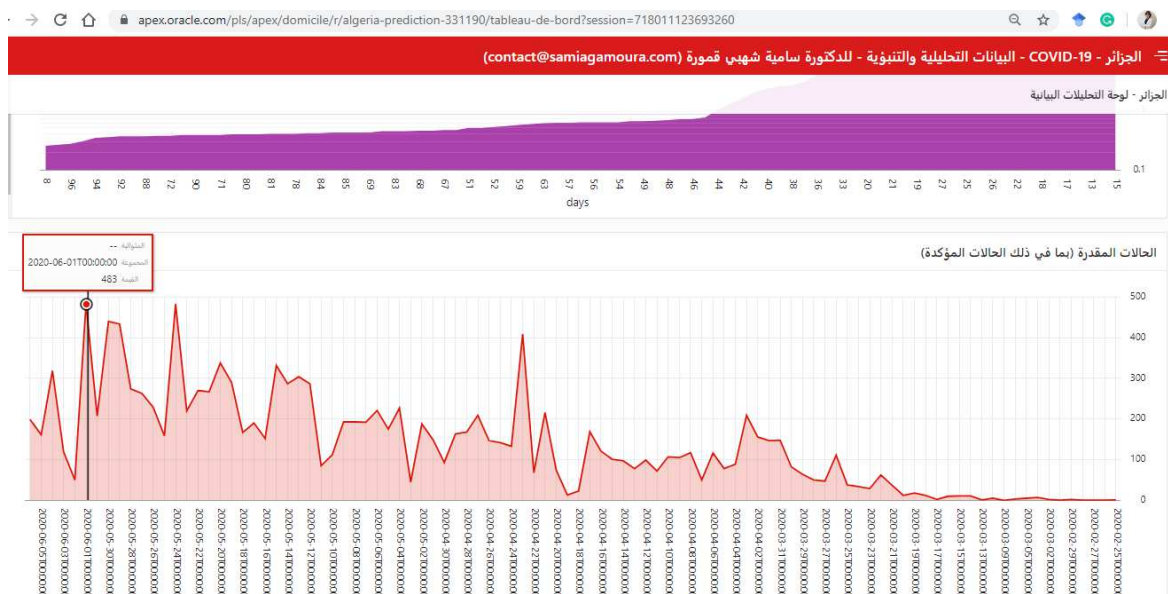


Figure 2. Our Estimated (computed in real time)

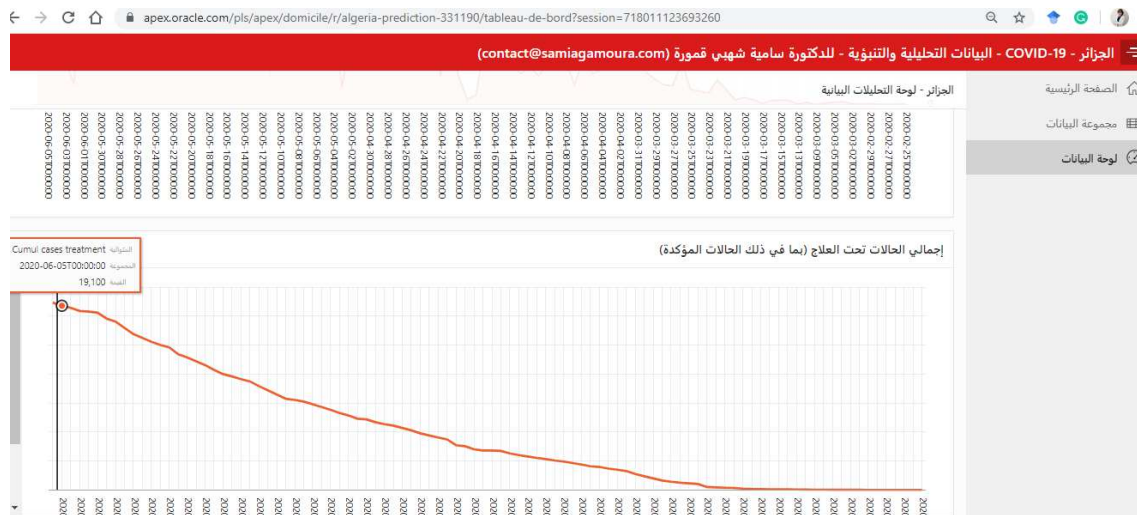


Figure 2. The cumulated cases under treatment (with our statistical forecasting)

Currently I am working to generalize this web application to include all the countries.

The application is based on Oracle Data Base.