Cooperative Forecasting

Sharing contributions to enable a short-term meta-predictor for COVID-19 in Spain

With the aim of building a meta-predictor to provide to the authorities with information about the short-term behavior of variables of great interest in COVID-19 virus spreading, we appeal to all the researchers in the fields of Mathematics / Statistics / Data Science who are developing or have developed predictive models with this goal. To do so, the provided forecasts will be used to build a meta-predictor or "cooperative-predictor", based on optimized combinations of forecasts from different models/algorithm, sorted by CCAA (Spanish administrative regions).

With this purpose, we make a call to all the researchers interested in taking part in this collective intelligence action to fight the COVID-19 pandemic, to deliver their forecasting files according to the following standards:

1. Interested researchers have to register, only once, using the web form: https://forms.gle/hrqT4LFjPdFhJ9CL6. This registration may be done once this call is published and always before the research team submit their forecasts for the first time. With the registration, a link to the repository where the scientific papers describing the methodology holding up the submitted predictions (papers, abstracts…). Optionally, these documents can be sent by e-mail. This methodological information will be of public domain.
2. The variables of interest to be forecasted are:
    a. Number of people admitted to ICU [uci]
    b. Number of hospitalized patients [hospitalizados]
    c. Number of deceases [fallecimientos]
    d. Number of new cases [nuevos]
    e. Number of confirmed cases [confirmados]
3. The accuracy of the predictions will be assessed according to the official database from the Instituto de Salud Carlos III (https://covid19.isciii.es/, also available at https://rubenfcasal.github.io/COVID-19/), which can be downloaded from https://covid19.isciii.es/resources/serie_historica_acumulados.csv. The variables to forecast are the ones gathered in this database. It is worth mentioning that all variables are cumulative.
4. The predictions will be done for a 1 to 7 days time frame (both included), both for all Spain and sorted by CCAA. Participants should provide at least forecasts for one CCAA or for all of Spain. Likewise, at least one of the mentioned a-e variables will be forecasted.
5. The predictions will be transferred to an excel file according to the attached template (GroupAcronym_Date.xlsx). The name of the file must include: (i) an acronym of the researcher/group –it should match with the one submitted in the registration form; (ii) an underscore; and (iii) the

date of the day just before the first day forecasted, in format mm_dd. For instance, the predictions from 1st to 7th April from an algorithm developed by research group MODES from UDC will be in a file named UDCModes_03_31.xlsx.

6. The files with the predictions will be daily submitted by e-mail to prediccion.covid19@udc.gal no later than 18:00 h (CET), from 2nd April on.

Authors give express consent for the use and analysis of their predictions by the Expert Committee, with the purpose of developing their own predictions, which will be notified to the authorities and, in case it is considered appropriate, to the media. The forecasted results of each particular model/method will be not of public domain.

The CEMat team in charge of this task commits to inform each group about the behavior of their proposed predictor (or predictors).