

## Modelling pandemic data with Deep Intelligence

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An intelligent platform, adapted to integrate and evaluate pandemic data, has been developed using Deep Intelligence and is under evaluation. This platform will incorporate dynamical data assimilation and artificial intelligence (AI) algorithms for prediction, modelling, optimization, etc. adapted to current needs and will have the necessary elements to implement other models quickly and easily without the need for programming. These models will be executed on data and generated knowledge stored in relational and non-relational databases, as well as in those that can be captured in real time.

The development of this intelligent platform and the mathematical and AI data analysis algorithms will allow the construction of models that help in the decision making process, that optimize resources, that minimize the risks of the epidemic caused by the COVID-19 at present and in the following years, as well as other epidemics. It will make it easier for governments, health organizations and health authorities to base their decisions on real data and contrasted models, which will lead to a drastic reduction in the impact of an epidemic: fewer sick people, fewer deaths, better use of existing material, optimizing the acquisition of material, guaranteeing better hospital and primary care services, optimizing human resources, reducing contagion, etc. [1-55].

Specific Objectives are (a) Creation of mathematical, AI and ML algorithms and specific optimization models to process data related to COVID-19 and of interest to Qatar and its government and health authorities, researchers, state security forces, etc. (b) Implementation or adaptation of a platform to facilitate the creation of dynamic models and their execution. (c) Implementation of an agile and simple system to acquire data from different sources: relational databases, non-relational databases, internet, files, sensors, analysis devices, etc. (d) Implementation of models that facilitate the creation of dashboards in an agile and simple way, as well as their implementation in already established web portals and (e) Creation of data processing mechanisms that guarantee privacy and data protection [56-208].

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