

Editorial

On the analysis of information in the current technological revolution

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In these times in which technology has permeated everything—or almost everything—so as not to be extreme, the availability of data from processes, systems, equipment, etc., it has not only been overwhelming but in most cases almost totally underutilized [1]. And that in addition, consequently, if it is evaluated without much effort, it is onerous considering an installed capacity that does not generate benefits.

One aspect to assess regarding the issue raised results from becoming aware of the wealth of information that underlies the data, and that when discovered enables the task of feedback in the systems or processes in an assertive and agile way. It is here, that already during the recent decade it has been working—and very successfully—with all the potential of artificial intelligence techniques and computational means to extract useful base information for analysis and the consequent decision-making that is required [2].

Faced with this real scenario, which continues to be promising and successful, it can also be valuable and relevant to train and prepare ourselves for the demanding activity of analysis, based on the modeling of processes or systems using the rigorous techniques that are considered classical. This training will finally be the ideal preparation for a more qualified action in the analysis of data or information mentioned above.

In this way, the records that can be captured technically with parameters of accuracy and pressure following the nature and area of application, and the offer available from a very wide market of devices with capacities that excite the imagination, must necessarily lead us to respond in the sense of developing capacities aimed at knowing, applying, developing, or adapting tools that make it possible to make responsible use of data and generate utility from them [3]. In short, the task of transforming numbers into information.

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Today, faced with a new industrial revolution as a consequence of technological advances, where the Internet of Things and its devices make the availability of data much closer with the alternative of executing tasks and processes in the cloud, including all the potentialities that they provide us, they have opened up artificial intelligence, and also machine learning, they could tempt us to displace all the wealth and knowledge that is required when working on analysis based on demanding classical modeling.

Almost, we dare to think that with these tools we have something like a magic element that can solve almost all the problems that may arise and, therefore, we can evade the fundamentals of the processes and the organized and consistent way in which these should be considered to obtain models or representations that are valuable and useful in many ways and in scenarios where the information from the data may be insufficient or limited.

Starting from the premise, as summarized by Obregón [4], that professional careers encompass two major actions such as analysis or modeling and design or synthesis, and that training for this implies passing through elements such as (1) Information systems; (2) Development of conceptual models; (3) Development of mathematical models; (4) Development of computational applications; (5) Calibration and validation of the models; (6) Creation of scenarios; and (7) Simulation; The need for a balance or complement in the training of our new generations is established, aimed at generating skills and abilities to achieve high-level quality analysis capabilities.

The way to achieve this not only with sufficiency but in a prominent, outstanding, and competitive way, requires solid and structured basic training (according to the laws and principles that govern) and continuous updating and training in data analysis techniques based on Machine Learning and Artificial Intelligence. All this structured and at the same time flexible scaffolding will empower students and graduates in the real exercise to which they are called in society as changing and demanding as in which we lived [5]. An excellent

performance will then be ensured from the training stage (educational level) to the professional field in which everyone will obtain great achievements and individual returns, positively impacting that society that requires his/her services..

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