Data science solutions: emphasis of Tec's new hub

Tec de Monterrey has created the [**Data Science Hub**](#)**,** an ecosystem that will seek to **promote development** projects **for industry and society** in general, based on the **analysis of information and data**.

Juan Arturo Nolazco, director of the Data Science Hub, explained that matters such as the use of smartphones, the Internet of Things, and a large capacity for data storage have led to the **need for better data analysis**.

*"**Good data analysis helps to make decisions**, to understand the behavior of phenomena, to design or propose solutions, to minimize search spaces, or even automatically activate mechanisms,"* he explained.

El HUB busca concentrar los esfuerzos del Tec de Monterrey en el área de Ciencia de datos width="900" loading="lazy">

At the hub's launch, which took place virtually on August 25, it was stressed that it'll be an open and collaborative platform.

*"It's an initiative that will seek **collaboration and partnerships** with companies, organizations, researchers, and governments, so as to **increasingly expand its services portfolio**,"* said Manuel Zertuche, Dean of the Tec's School of Engineering and Sciences.

The Dean added that the **Data Science Hub** has already been working on multiple projects for a year. What's more, it forms part of the Tec's strategy to create platforms on strategic themes, such as its **Cybersecurity Hub** and **Artificial Intelligence Hub.**

How the Tec's Data Science Hub works

Nolazco explains that the **hub** addresses the **data** needs of different stakeholders such as **organizations**, **governments**, **universities,** and **companies**.

The Hub **consolidates** and **generates partnerships**, as well as **resources**, that favor the initiatives of these stakeholders, researchers, and laboratories from different disciplines, to name but a few.

One example of the work they do is in the **Tec BASE Genome Sequencing Laboratory,** which studies the human genome, where they analyze **DNA** data from **bacteria**, **viruses**, **animals,** and **plants**, among other things.

*"The **Data Science Hub** is the **liaison**: we manage this if TEC Base lacks equipment or teachers.*

*"For example, we're holding a few **conferences** with the **University of Texas** in San Antonio to promote the Tec BASE area,"* Nolazco explained.

The director of the Data Science Hub pointed out that they already have some **partners**, such as **Google**, **Amazon Web Services**, **IBM**, and **Mathworks**.

La secuenciación permite el desarrollo de vacunas y avances en otras áreas width="900" loading="lazy">

The Data Science Hub's strands of work

This Tec hub operates along four axes: **Education**, **Awareness**, **Research,** and **Consultancy.**

Here are some of the actions they'll look to promote in each area, or that have already been implemented:

  - Education (professional training and ongoing education)

The educational part of the Hub includes **material management** and **courses** on topics related to the **use** and **management** of **data.**

These courses include **databases,** the use of **Artificial Intelligence** in **Machine Learning,** and even learning certain **programming languages.**

In the area of education, the **Hub** also collaborates on graduate degrees, including master's and doctorates like the **Master's Degree in Applied Artificial Intelligence**, or an online **Data Science certification** program via the **edX** platform.

Nolazco explains that although some of these **educational courses** existed **before** the Hub, they are now seeking under this initiative to **maximize** educational **efforts** in data science.

*"It's part of what we want at the Hub, for people to know that **research** was already being carried out at the **Tec**. In a way, this serves to **endorse** what's being carried out and has been carried out,"* he said.

"Good data analysis helps to make decisions, *to understand the behavior of phenomena, and to design or propose solutions," Juan Nolazco, the Data Science Hub director.*

- Research in various areas

Regarding support for internal and external **research**, Nolazco stresses that **initiatives** and **projects** to improve people's **quality of life** will be promoted, allowing the correct use of data to **speed up research.**

They're currently working on a few **projects**, such as **genome sequencing,** developing **hyperfoods** or **superfoods** that have the potential to fight **diseases** such as **cancer**, or **fruit** and **coffee** crop characterization.

Other **areas** where they're working on projects include the **healthcare sector**, on the detection and **prognosis** of **diseases** such as **diabetes**.

They're also collaborating on **material design**, **education**, **mobility**, **smart factories and cities,** and even on **speech technology,** among other things.

EL HUB de Ciencia de datos busca apoyar en investigaciones que pueden impactar positivamente en la s width="900" loading="lazy">

- Data Science Awareness

The hub will also set about to **promote** the **proper use** and **management** of **data**, as well as its importance to **socioeconomic development**.

*"We're looking to **encourage people** to make **good decisions with data**. To do so, we're creating a competition for students called 10K,"* he adds.

Similarly, they're working with the **Nuevo León government** to create a **Data Science competition** and a prize for the **Data Science graduate course**.

   - Consultancy applied to various disciplines

Another of the hub's areas of work is to provide **consultancy** on matters related to **data science** to **different disciplines**.

Nolazco says that **companies**, **universities**, and anyone who's interested, can ask for support from the **hub's experts**.

*"We're **gradually reaching out** to **companies** to look for these **partnerships**. The Tec has a lot of **experience** in **external consultancy**,"* concluded the director.

El HUB busca prepararse en el tema de big data ante el futuro width="900" loading="lazy">

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