Impact of human behavior on a controlled magnetic field sensor under variable contour conditions

Short description (what need was solved?)

The systems in which we work are based on a patented technology of modeling and control of electromagnetic fields. The activity is the research and development of sensor technologies with high added value within the field of security of people and assets, so that third parties (manufacturers of security items and suppliers of security services) can integrate them into their products, improving their performance, increasing their value, and even generating new goods or services. The company's current commercial interests focus on the following 5 lines of business: domestic and perimeter security, sensor technology, smartlocks, automotive and collaborative robotics.
A very important part is the firmware of the system, where all its intelligence resides. A study of the applicability of Artificial Intelligence in these environments has been deployed, with a special focus on the detection of anomalies in the data.

What service(s) provided?

The objective is to develop mathematical models of those factors existing in the contour conditions of the sensors, so that they can be introduced into the management algorithms of the system, being able to identify and characterize the reason for changes in the measurement of the sensors and act accordingly, even predicting future events based on what has been learned from past situations.
To do this, we focus on three axes of action:
- Supervised detection of anomalies to avoid false positives, where we will perform a predictive analysis through the design and development of new algorithms.
- Unsupervised detection of anomalies in data collected from sensors to highlight important facts and make accurate descriptions.
- Detection of anomalies in data streams to measure the "degree of excitation" of the sensor, or the change in frequency, which can occur at different levels.

Relationship with digitization

In accordance with the expert, the development of software that allows the automatization of the process of detecting anomalous behaviors. Thus, it is a transformation of a manual process to the use of intelligent technologies to solve the problem.

Customer, details

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