

FOREIGN LANGUAGES FOR SPECIFIC PURPOSES

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APPLICATION OF MACHINE LEARNING TECHNIQUES IN THE PROCESS OF MANAGING THE PLANE

Aviation has a variety of problems, which need the computer system to analyze a big amount of data in a really small amount of time. One part of the solution is the improving the electronics, the equipment, and the transmission lines itself i.e. using physical means. Another one is creating and searching for the best applicable algorithms to be used in the particular field of need. Machine learning is highly dependent on both and it has a variety of uses in different fields of science and industry. People are lazy and want a lot of work to be done for them for free. So, the idea of the computer being able to learn is really gorgeous, as it provides us with suitable means to make somebody work instead of us.

For example, using the machine learning algorithms we can make the plane learn from every landing and take-off made by pilot. It is really hard to take into account all the enormous amount of information gathered during every flight, like the turning angle, vertical and horizontal speed, the resulting altitude and the wind speed and direction and most importantly result which can be considered a “successful”. Moreover, it would be possible only using the incredibly powerful processors and most of this information would be impossible to use in the managing another aircraft. But the resulting action could possibly create and improve an autopilot to the level of automatic takeoff and landing. Such a thing would have really high value, as in case of an emergency and invalidity of a pilot the passengers would be safe, because of this automatically working system.

The idea is that system is constantly checking the actions of the pilot, compares the data and learns to recognize dangerous situations, from the awkward behavioral patterns, which were not used before or have been considered as “fail” by the previously done actions and followed the actions calculations.

I would say it is similar to a guide dog. First, “handler” teaches the dog and then the dog leads the blind people in a real life dangerous situations. It does not mean that people cannot control the dog anymore, but only that it ensures that everything goes well, as prescribed.

All things considered, it should be stated that there is still a constant need for developing and implementing new effective techniques and methods to provide airlines safety.

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