CREATION OF NEW WIRELESS COMMUNICATION CHANNELS USING ARTIFICIAL INTELLIGENCE TO BE USED IN 6G NETWORKS

A methodology for generating new wireless communication channels using Artificial Intelligence (AI) and the measurement databases generated in the Singular Laboratory for use in 6G networks has been developed

Technology for Licensing

Keywords:

Wireless communication, 6G networks, artifical intelligence, communication scenarios

Description:

AI is an indispensable tool for the technological development of next generation 6G systems as it allows modelling propagation channels beyond classical mathematical methods.

Currently, the technique measures real communication scenarios and recreates them. However, the great variability of communication environments and the technological requirements are a drawback for the recreation of new environments.

In order to find a solution to these problems, a method based on the generation of wireless communication scenarios using generative neural models is described. This AI uses its learning capability to perform data transformations together with real measurements obtained in the Singular Lab and generate new propagation scenarios.

In this context, emerging AI techniques can benefit from statistical analysis of data, providing novel strategies with a high potential to test a new communications system in the scenario in which it will operate.

Advantages and Benefits

» Accuracy

Simulations based on theoretical models are more inaccurate and may lead to erroneous results.

» Cost reduction

As there are infinite communication scenarios, measurements cannot be taken in all possible real scenarios due to their high cost.

» Simplicity of the procedure

Carrying out measurements in the real scenario can be highly complex as it involves technological requirements and the displacement of the necessary instruments by boat, train, drone...
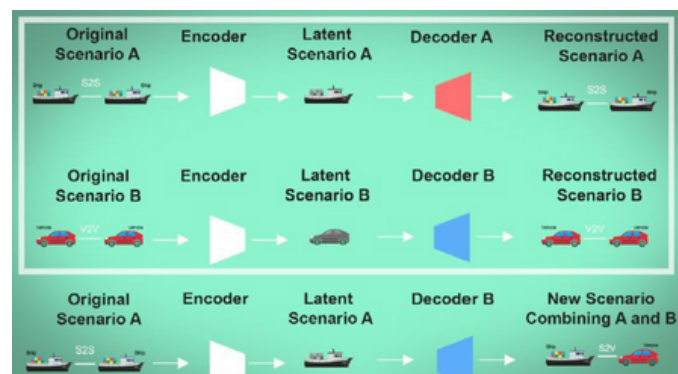
Patent status:
Spanish Patent application number: P202330130
Priority date: 21/02/2023

Contact:
Oficina de Transferencia de Resultados de Investigación (OTRI) - Universidad de Granada

patentes@ugr.es   www.otri.ugr.es