

CREATION OF NEW WIRELESS COMMUNICATION CHANNELS THROUGH ARTIFICIAL INTELLIGENCE FOR USE IN 6G NETWORKS

Description:

Artificial intelligence (AI) is an essential tool for the technological development of the next generation of 6G systems, since it allows modeling propagation channels beyond classical mathematical methods. Currently, the technique measures real communication scenarios and recreates them. However, the great variability of communication environments and technological requirements pose 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 communications scenarios using generative neural models is described. This AI uses its learning capacity to perform data transformations together with real measurements obtained in the Singular Laboratory and generate new propagation scenarios. In this context, emerging AI techniques make it possible to benefit from statistical data analysis, providing highly innovative strategies with high potential for testing a new communications system in the scenario in which it will operate.

Keywords:

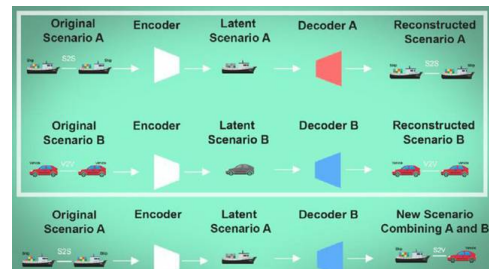
[Wireless Communications](#), [Communication Channels](#), [Artificial Intelligence](#), [6g Networks](#)

Sectors:

[ICT](#), [Engineering](#)

Areas:

[Telecommunications](#), [Internet and Networks](#), [Communications](#)



Advantages:

- Accuracy, carrying out simulations based on theoretical models is more inaccurate and can lead to erroneous results.
- Reduction of costs, since there are infinite communication scenarios, measurements cannot be carried out in all possible real scenarios due to their high cost.
- Simplicity of the procedure, carrying out measurements in the real scenario can be very complex since it implies technological requirements and the movement of the necessary instruments by boat, train, drone...

Uses and Applications:

The application of the invention is in the field of wireless communications, specifically in 6G networks. Currently, the search for new strategies that facilitate the recreation of new environments is becoming increasingly important. In this context, emerging AI techniques are a promising alternative for modeling new channels, since they allow the benefit of statistical data analysis, providing highly innovative strategies with high potential that can be used to test a new communications system. in the scenario in which it will operate.

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