Glossary

Affordability The quality of a product, service, device, etc. being able to be afforded because it is inexpensive and/or reasonably priced.

Capability It describes what can be done, achieved or accomplished, for example, through a technology or device.

Capacity The maximum achievable output of a technology or technological design, for instance, the cognitive radio network.

Data pre-processing A data mining technique that transforms raw data into an understandable or usable format.

Deep architectures Systems composed of multitude levels of non-linear operations, such as neural networks (NN) with many hidden layers.

Deep learning A subset of *machine learning* (ML). Deep learning is an artificial intelligence (AI) function with the goal of building systems that use intelligence to solve complex tasks.

Mobility The ability of a communication device to be able to communicate even while in motion.

Optimality The best or most effective result(s) obtainable, based on current or prevalent conditions (constraints) under which a technology such as the cognitive radio network operates. For example, in context, optimality of the cognitive radio network is achieved when the best performance (measured from the performance metrics such as the average data rates, throughput, outage probability, etc.) is realised, given the prevailing network conditions (that is, the available resources and the various constraints being considered).

Portability The quality of a component or device being handy and easy to carry about.

Productivity The measure of the efficiency or total output (yield) of a communication network or technology, such as the cognitive radio network.

Resourcefulness The ability of a technology such as the cognitive radio network, or a communication device, to find quick and smart ways to overcome its various limitations.

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Throughput The total amount of data per unit time (total data rate) that is successfully transmitted by a communication network or technology, and is usually measured in bits per second (bps).

Ubiquity The quality of something being available everywhere and in abundant supply.

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