

## Artificial Neural Networks for Cognitive Radio Network: A Survey

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**Abstract :** The main aim of the communication system is to achieve maximum performance. In cognitive radio, any user or transceiver have the ability to sense best suitable channel, while the channel is not in use. It means an unlicensed user can share the spectrum of licensed user without any interference. Though the spectrum sensing consumes a large amount of energy and it can reduce by applying various artificial intelligent methods for determining proper spectrum holes. It also increases the efficiency of Cognitive Radio Network (CRN). In this survey paper, we discuss the use of different learning models and implementation of Artificial Neural Network (ANN) to increase the learning and decision-making capacity of CRN without affecting bandwidth, cost and signal rate.

**Keywords :** artificial neural network, cognitive radio, cognitive radio networks, back propagation, spectrum sensing

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