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Title:	Artificial Neural Networks in Quantum Information and Nuclear Magnetic Resonance
Authors:	Kumar, Ankit
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Abstract:	Artificial neural networks(ANN) imitated to biological neural networks constituting network of neuron which learns from data and the computing systems. Machine Learning(ML) is a subset of Artificial Intelligence(AI), which learns from data, examples, and without being explicitly programmed. A variety of application has found of ANN in Quantum Information like Entanglement Detection of Quantum System, study NMR(Nuclear Magnetic Resonance) spectra. One can classify Artificial neural networks into discrete-variable and continuous-variable artificial neural network. A comparison of efficiency has been made between these two networks with their cost. The PPT(Partial positive transpose) criterion uses to detect entanglement for bipartite quantum systems, here we use ANN model and PPT criteria for qubit-qubit entanglement detection, and Entanglement criteria for Qutrits. ANN enables quantification of spectra got from NMR, like structure elucidation, peak, phase shift. Analyses Lineshift fitting and does lipoprotein isolation by density of protein through ANN.
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