❮ WOMANIUM | QUANTUM ❯

Womanium Global Quantum +AI Project

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The QML field is rapidly evolving, however, we could say the list below shows the established QML methods for training Sine function.

1. Quantum Neural Networks (QNNs)

2. Quantum Implicit Neural Representations (QIREN)

3. Hybrid Quantum-Classical Models

4. Quantum Variational Circuits

5. Quantum Recurrent Neural Networks (QRNNs)

6. Quantum Convolutional Neural Networks (QCNNs)

7. Quantum Fourier Transform (QFT) Based Models

8. Quantum Support Vector Machines (QSVMs)

9. Quantum Boltzmann Machines (QBMs)

10. Quantum Tensor Networks

There are generally 6 steps for training a Sine function using Quantum Machine Learning (QML):

Step 1: Importing Necessary Libraries; such as PennyLane and NumPy.

Step 2: Defining the Quantum Circuit; creating a quantum circuit that will be used to approximate the Sine function. This circuit will include parameterized gates.

Step 3: Defining the Cost Function; measuring the difference between the predicted values and the actual Sine values.

Step 4: Initializing Parameters; Initializing the parameters that will be optimized.

Step 5: Optimizing the Parameters; Using an optimizer to minimize the cost function and train the quantum model.

Step 6: Evaluating the Model; to see how well it approximates the Sine function.