

Method and System for Quantum Machine Learning

Abstract

In a described embodiment, a hybrid quantum-classical computing method including receiving time dependent input data of a dynamical system, transforming a first element of the input data using a plurality of transformation matrices to obtain a set of transformed data, and encoding the transformed data into a quantum circuit by performing a first set of quantum operations is implemented. The quantum circuit includes a plurality of layers, wherein the layers include data encoding layers, feedback layers, and a random transformation layer is implemented. Encoding a measurement feedback from a previous measurement vector into the quantum circuit is implemented by performing a second set of quantum operations. The quantum circuit operates to generate an updated measurement vector and a reservoir state is generated based on the updated measurement vector, a previous reservoir state vector and the input data.

FIG. 17