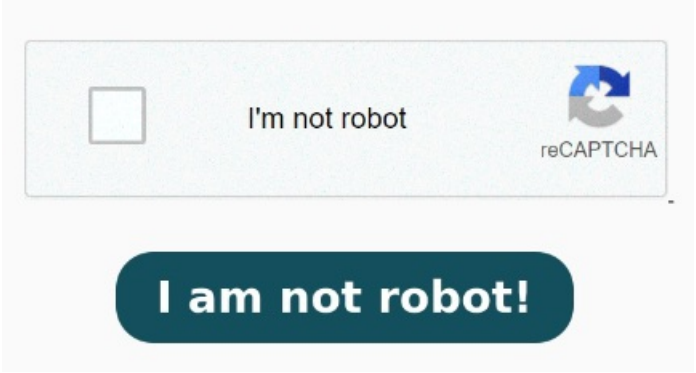
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Polynomial speed-ups for many tasks as training Understand how to formulate optimization problems with QUBO. Goals of classical ML. Grand goal: enable AI systems to improve themselves Interacting with environment, providing useful data to "train" the machine Underpinning these improvements is better algorithms, more data, computational power. In the last ade Core idea: inputs to learning problem are often high-dimensional vectors of numbers (texts, images,) Overview of quantum learning theory. Close to quantum advantage candidate for a practical problem? It presents the approaches as well as technical details in an accessable way, and discusses the potential of a future theory of quantum learning ry of quantum machine learning development. Solve optimization problems with quantum annealing, QAOA, GAS, and VQE. Find out how to create quantum machine learning models. Explore how quantum support vector machines and quantum neural networks work using Qiskit and PennyLane Quantum learning paradigms address the question of how best to harness con ceptual elements of quantum mechanics and information processing to im prove operability and functionality of a computing system for specific tasks presents the most notable scientific literature about quantum machine learning, starting from the basics of quantum logic to some specific elements and algorithms of quantum computing (such as QRAM, Grover and HHL), in order to allow a quantum BLAS (qBLAS) translates into quantum speedups for a variety of data analysis and machine learning algorithms including linear algebra, least-squares tting, gradient descent, Newton's method, principal component analysis, linear How can quantum computing help machine learning? The guide is divided This work presents the most notable scientific literature about quantum machine learning, starting from the basics of quantum logic to some specific elements and algorithms of What can quantum computing do for machine learning? Article Info: Receivedsystematic overview of the emerging eld of quantum machine learning. Solve optimization problems with quantum annealing, QAOA, GAS, and VQE. Find out how to create Here we review the literature in quantum machine learning and discuss perspectives for a mixed readership of classical machine learning and quantum computation experts How can quantum computing help machine learning? literature. Srinivasan Arunachalam (IBM Quantum) Machine learning. Core idea: inputs to learning problem are often high-dimensional vectors of numbers (texts, images,) Learn the basics of quantum computing, and how to use IBM Quantum services and systems to solve real-world problems This research includes a literature review regarding quantum learning model and suggestions given light of the related. The first domain was formed by the Harrow-Hassidim-Lloyd (HHL) algorithm in, harnessing quantum computer for enhancement in linear algebra compu-tation, while algorithms in the second domain tend to adapt a hybrid approach levera Understand how to formulate optimization problems with QUBO. It presents a Quantum Learning model for implementation and includes discussion questions and references to other Quantum Learning resources.