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EARTH OBSERVATION IMAGE ANALYSIS AND INTERPRETATION USING QUANTUM
CONVOLUTIONAL NEURAL NETWORKS

Abstract

It is critical to understand and categorize features from huge amounts of remote sensing data. Image classification is one of the most widespread applications of Convolutional Neural Network. Quantum computers have substantial advantages in terms of superposition and parallel processing. By adding quantum environments, the Quantum Convolutional Neural Network increases Convolutional Neural Network performance. In this paper, we propose a novel method for extracting features from remote sensing images, as well as recognizing and classifying them, based on Quantum Convolutional Neural Networks. Using a Quantum Convolutional Neural Network, we categorized Earth Observation satellite images more effectively.