

Abstract

Mohamed M. Emara

A Neural Network Approach for Binary Hashing in Image Retrieval

Online and cloud storage has become an increasingly popular location to store personal data that led to raising the concerns about storage and retrieval. Similarity-preserving hashing techniques were used for fast storing and retrieval of data. In this paper, a new technique is proposed that uses both randomizing and hashing techniques in a joint structure. The proposed structure uses a Siamese-Twin architecture neural network that applies random projection on data before being used. Furthermore, Particle Swarm Optimization and Genetic Algorithms are used to fine-tune the Siamese-Twin neural network. The proposed technique produces a compact binary code with better retrieval performance than other hashing randomizing technique that varies from 2 % to 5 %.