

# **Abstract**

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## **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 %.