Learning to hash

Abstract:
In view of the recent huge interest in image classification and object recognition problems and the spectacular success of deep learning and random forests in solving these tasks, it seems astonishing that much more modest efforts are being invested into related, and often more difficult, problems of image and multimodal content-based retrieval, and, more generally, similarity assessment in large-scale databases. These problems, arising as primitives in many computer vision tasks, are becoming increasingly important in the era of exponentially increasing information. Semantic and similarity-preserving hashing methods have recently received considerable attention to address such a need, in part due to their significant memory and computational advantage over other representations.

In this talk, I will overview some of my recent attempts to construct efficient semantic hashing schemes based on deep neural networks and random forests.

Based on joint works with Qiang Qiu, Guillermo Sapiro, Michael Bronstein, and Jonathan Masci.