

My talk title: "Deep feature based on convolutional auto-encoder for compact semantic hashing"

My talk abstract:

For content-based image retrieval, a good presentation is crucial. Nowadays, as deep learning models can be used to generate an excellent presentation, it has been extensively investigated and widely used in research systems and commercial production systems. However, the deep representation (deep feature) is still too large. Compared with directly using deep representation, binary code can reduce significant storage overhead. Meanwhile, the bit-wise operations for binary code can dramatically fasten the computation. There exist some schemes used to convert the deep feature to binary code, but all of them directly applied the last layer of the connection layers, which exhibit global feature and discriminating features. To achieve deep generative feature and avoid destroying the image locality, we aim to construct the binary hash code based on convolutional auto-encoders. Namely, we use the generative model to transform the local feature to binary code. The training process of our proposed model is decomposed into three stages. Firstly, the convolutional layers are trained using convolutional autoencoders, followed by the fully-connected layers training using Restricted Boltzmann Machine. Thirdly, we deploy a supervised similarity learning algorithm to learn close code for similar images.