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Topic: **Deep Learning: Auto-encoders**

Abstract:

Autoencoding may be regarded as a type of mapping from one feature space to the same feature space, but via a transformation. These transformations are data specific and the compression is lossy. Despite that, it learns automatically from the examples. The practical applications of autoencoders were rare some time back, but due to the Deep Learning hype, the use of autoencoders found a new meaning. With appropriate hyperparameters, autoencoders can learn data projections that are much more interesting than other feature extraction techniques. It does not require any new engineering and just consists of an encoding and decoding part implemented with neural networks. However, these features extracted by autoencoders are much better than traditional methods. In this talk, we would dive deep into deep learning using autoencoders.

Bio:

Ashish Ghosh is a Professor at the Machine Intelligence Unit, Indian Statistical Institute. He has already published more than 170 research papers in internationally reputed journals and refereed conferences, and has edited eight books. His current research interests include pattern recognition and machine learning, data mining, big data analysis, image analysis, remotely sensed image analysis, video image analysis, soft computing, fuzzy sets and uncertainty analysis, neural networks, evolutionary computation, and bioinformatics. Dr. Ghosh received the prestigious and most coveted Young Scientists Award in Engineering Sciences from the Indian National Science Academy in 1995, and in Computer Science from the Indian Science Congress Association in 1992. He was selected as an Associate of the Indian Academy of Sciences, Bangalore, India, in 1997. He is a member of the founding team that established the National Center for Soft Computing Research at the Indian Statistical Institute, Kolkata, in 2004, with funding from the Department of Science and Technology, Government of India, and is currently the In-charge of the Center. He is acting as a member of the editorial boards of various international journals.