CNN

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In Wiki, CNN is explained that in machine learning, a convolutional neural network (CNN, or ConvNet) is a class of deep, feed-forward artificial neural networks that has successfully been applied to analyzing visual imagery. We can see its structure at Fig. 1, it includes the convolutional layer and pooling layer. CNNs use relatively little pre-processing compared to other image classification algorithms. This means that the network learns the filters that in traditional algorithms were hand-engineered. This independence from prior knowledge and human effort in feature design is a major advantage. Now, They have applications in image and video recognition, recommender systems [2] and natural language processing [1].

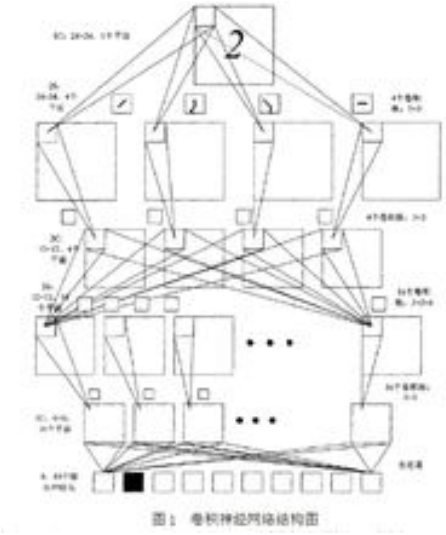

Figure 1: CNN Structure

References

[1] Ronan Collobert and Jason Weston. A unified architecture for natural language processing: Deep neural networks with multitask learning. In *Proceedings of the 25th international conference on Machine learning*, pages 160–167. ACM, 2008.

[2] Aaron Van den Oord, Sander Dieleman, and Benjamin Schrauwen. Deep content-based music recommendation. In *Advances in neural information processing systems*, pages 2643–2651, 2013.