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CS 175 HW 1

The two articles discussed different architectures for convolutional neural networks. One described a neocognitron, an implementation consisting of weighted S cells and C cells that alternate to create layers of a neural network. This network takes an input of a two dimensional array and is trained to recognize patterns found between different features. The other article described a deep CNN that was modeled with multiple GPU's. This CNN consisted of 5 convolutional layers and 3 fully connected layers. The computation between layers was split up between the two GPU's, and were only allowed to interact with each other between certain layers. This CNN was trained with an extremely large dataset (1 million + labeled pictures). These two networks are similar in the way that the networks computed patterns between layers but were different in architecture and in learning methods (supervised vs unsupervised)

References

1. Krizhevsky, Alex, et al. "ImageNet Classification with Deep Convolutional Neural Networks." Papers.nips.cc, 2012, papers.nips.cc/paper/4824-imagenet-classification-with-deep-convolutional-neural-networks.pdf.
2. Kunihiko Fukushima (2007) Neocognitron. Scholarpedia, 2(1):1717.