**Technical Writing HW** – First draft of final research paper

[ Sohee Kim - 20220344 ]

Topic : Models of Convolutional Neural Network

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   2. Computer vision Tasks – Image Classification; Use Convolutional Neural Network
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      2. Network type - Convolutional Neural Network
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5. **Introduction**

Neural networks are computing systems with interconnected nodes that work much like neurons in the human brain. Using algorithms, they can recognize hidden patterns and correlations in raw data, cluster and classify it, and – over time – continuously learn and improve.

[More about what is neural network]

Computer vision has become increasingly important and effective in recent years due to its wide-ranging applications in areas as diverse as smart surveillance and monitoring, health and medicine, sports and recreation, robotics, drones, and self-driving cars. Visual recognition tasks, such as image classification, localization, and detection, are the core building blocks of many of these applications, and recent developments in Convolutional Neural Networks (CNNs) have led to outstanding performance in these state-of-the-art visual recognition tasks and systems. As a result, CNNs now form the crux of deep learning algorithms in computer vision.

CNN is useful in a lot of applications, especially in image related tasks. Applications of CNN include image classification, image semantic segmentation, 2 object detection in images, etc. We will focus on image classification (or categorization) in this paper. In image categorization, every image has a major object which occupies a large portion of the image. An image is classified into one of the classes based on the identity of its main object, e.g., dog, airplane, bird, etc. In addition, we focus on the architecture and training methods of Convolution neural networks, specifically Alexnet, Vgg and ResNet.

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<https://www.sas.com/en_in/insights/analytics/neural-networks.html>