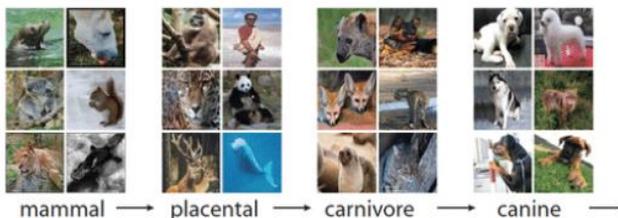


# Visual Computing MAGAZiNE

The ImageNet Dataset designed for use in visual object recognition.

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## 1. Creation of ImageNet.

Fei-Fei Li was one of the researchers who played an important role in the development of the ImageNet dataset, which has been instrumental in advancing the field of deep learning and computer vision. She claimed: “The paradigm shift of the ImageNet thinking is that while a lot of people are paying attention to models, let’s pay attention to data. Data will redefine how we think about models.” [1,2]

In 2009 ImageNet is presented for the first time as a poster at the Conference on Computer Vision and Pattern Recognition (CVPR) in Florida.

ImageNet is a large dataset of annotated photographs intended for computer vision research.

The goal of developing the dataset was to provide a resource to promote the research and development of improved methods for computer vision.

Based on statistics about the dataset recorded on the ImageNet homepage, there are a little more than 14 million images in the dataset, more than 21 thousand groups or classes (synsets), and more than 1 million images that have bounding box annotations (e.g. boxes around identified objects in the images). The photographs were annotated by humans using crowdsourcing platforms such as Amazon’s Mechanical Turk [1,2].

## 2. ImageNet and Deep Learning

Alex Krizhevsky, et al. from the University of Toronto in their 2012 paper titled “ImageNet Classification with Deep Convolutional Neural Networks” developed a convolutional neural network that achieved top results on the ILSVRC-2010 and ILSVRC-2012 image classification tasks.

These results sparked interest in deep learning in computer vision: “we trained one of the largest convolutional neural networks to date on the subsets of ImageNet used in the ILSVRC-2010 and ILSVRC-2012 competitions and achieved by far the best results ever reported on these datasets.” [3]

## References

[1] J. <https://www.image-net.org/about.php>

[2] J. Deng, W. Dong, R. Socher, L.-J. Li, K. Li and L. Fei-Fei, ImageNet: A Large-Scale Hierarchical Image Database. IEEE Computer Vision and Pattern Recognition (CVPR), 2009

[3] Krizhevsky, Alex and Sutskever, Ilya and Hinton, Geoffrey E. ImageNet Classification with Deep Convolutional Neural Networks, Advances in Neural Information Processing Systems (NIPS), 2012

