Instagram Image Recognition

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What tools do they use?

ResNeXt 101-32x48d

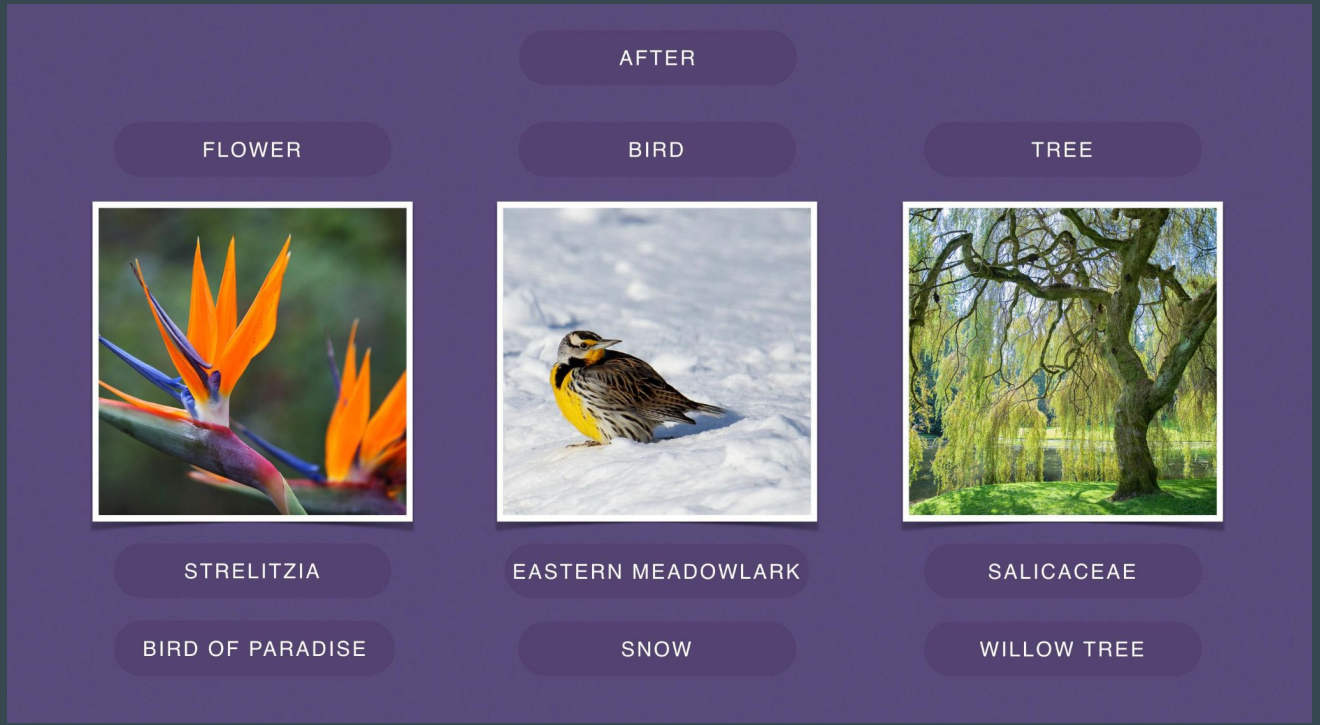
- A specific type of deep neural network architecture that falls under the broader category of Convolutional Neural Networks (CNNs)
- CNN is a deep learning neural network architecture specifically designed for processing structured grid data, such as images and videos.

How do they train the tools?

- Weakly supervised learning
- Train with public images labeled with hashtags
  - 3.5 billion Instagram images with 17,000 hashtags
  - After 1 billion images and 1,500 hashtags reached 85.4% accuracy on ImageNet
- Hashtag supervision
  - Dealing with multiple labels
  - Sorting hashtag synonyms
  - Balancing the influence of frequent hashtags and rare ones

How do they train the tools?

Hashtags can help computer vision systems go beyond general classification terms, in order to recognize specific subcategories and additional elements in an image.



How do they use the tools?

Instagram uses image recognition algorithms to automatically analyze and categorize visual content on the platform. This allows for features like auto-tagging, content filtering, personalized recommendations, and improved accessibility, ultimately enhancing user engagement and the overall Instagram experience.

How are we using it?

1. When you use Instagram's AR effects, CNNs are used to track your face and to apply the effects in a realistic way. For example, a filter that adds sunglasses to your face will use CNNs to identify your eyes and to place the sunglasses in the correct position.

2. When you search for a hashtag, Instagram shows you a list of posts that are related to that hashtag. This list is ranked based on a variety of factors, including the popularity of the posts, the relevance of the posts to the hashtag, and the likelihood that you'll be interested in the posts. CNNs are used to extract features from the images in these posts and to identify the objects and people in them. This information is then used to rank the posts in a way that is likely to be most relevant and interesting to you.

Sources

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