ResNet and CNN are both types of neural networks used in deep learning, but they have some differences in terms of their architecture and purpose.

A Convolutional Neural Network (CNN) is a type of deep learning algorithm that is primarily used for image recognition tasks. It is composed of multiple layers, including convolutional layers, pooling layers, and fully connected layers. Convolutional layers apply filters to the input image to extract features, pooling layers downsample the feature maps, and fully connected layers produce the final output.

ResNet, on the other hand, stands for Residual Network, and it is a type of Convolutional Neural Network that is designed to address the problem of vanishing gradients. In deep networks, the gradients can become smaller as the number of layers increases, making it difficult for the network to learn. ResNet addresses this issue by introducing skip connections, where the input is added to the output of a layer, allowing the network to bypass one or more layers and still be able to learn. This helps alleviate the vanishing gradients problem, and enables ResNet to have much deeper architectures than traditional CNNs.

In summary, CNNs are general-purpose deep learning algorithms used for image recognition tasks, while ResNets are a specific type of CNN that are designed to be deeper and address the vanishing gradient problem.