PEDESTRIAN DETECTION

By: Ryan & Hasan

PEDESTRIAN DETECTION

- We have made a CNN model that can identify whether there is a person in an image or if it is a person like object

WHAT DOES IT DO?

The main function of our program is to identify if there is a person in an image.

This can be used for self driving cars to differentiate a person from an object.

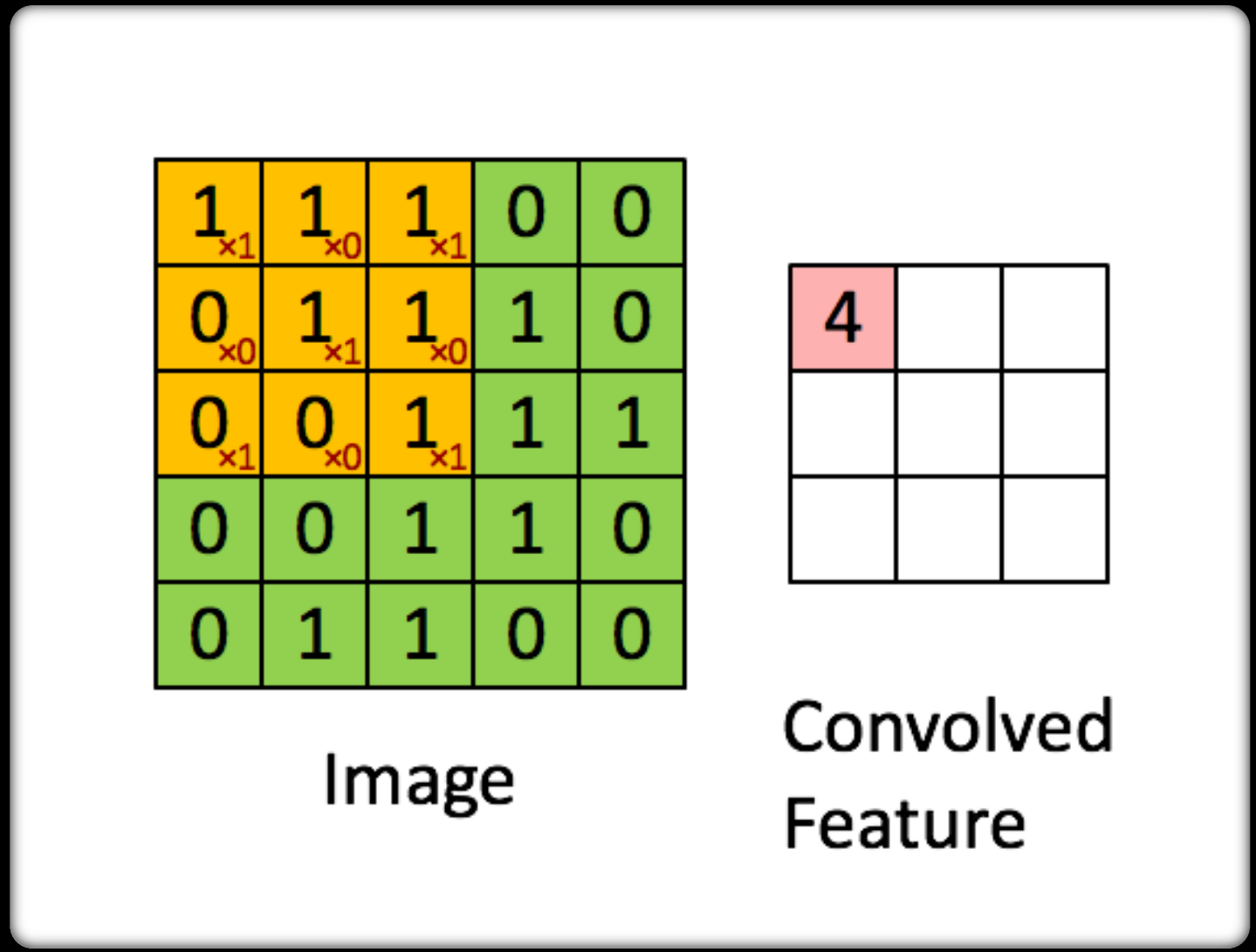
Which can help it make decisions to keep people safe.

WHAT IS CNN?

CNN is a type of neural network that works using kernels

HOW DOES CNN WORK?

- CNN uses kernels to reduce the size of an image by extracting spatial data
- This is an example of how CNN works it is taking a kernel of size 3x3 and applying a size 5 filter to it to reduce the size of the image and keep the spatial data at the same time

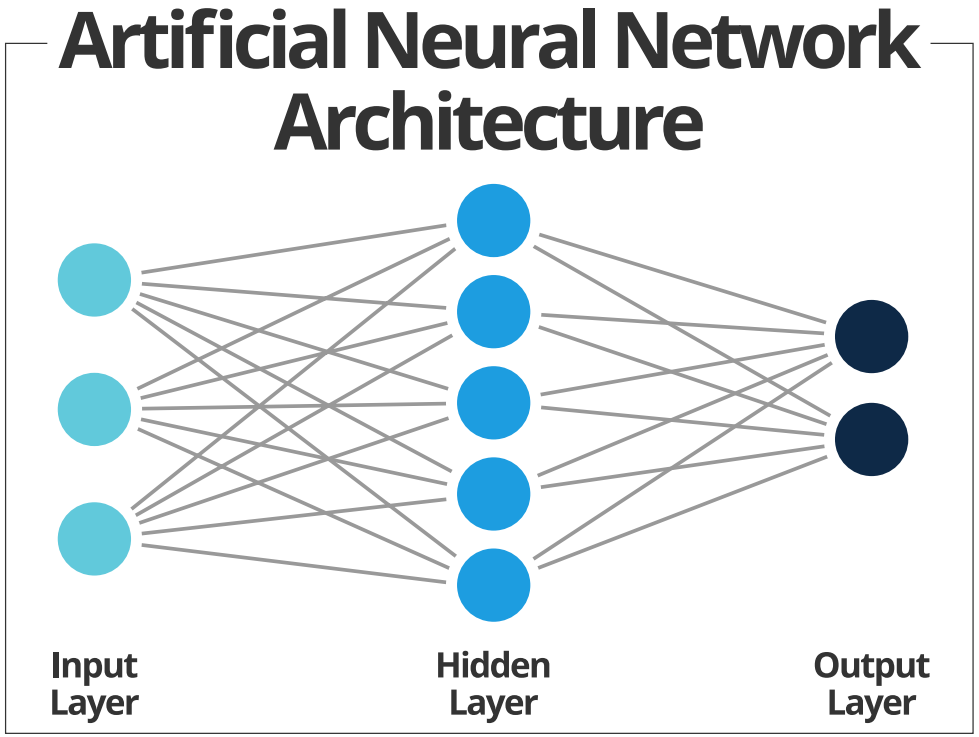


MAX POOLING

- After performing CNN we also use Max Pooling which will take the Maximum value of different non overlapping portions of the image this makes sure to reduce the data and will help to reduce overfitting

ANN

- What is ANN?
- ANN is Artificial Neural Network and an ANN works with 3 types of layers the input the output and the hidden layer
- Now we use an ANN in our model by first flattening the data into a 1-dimensional array and passing it on to an ANN which will combine features and attributes with weights and the deep learning algorithm will adjust these weights to optimize the performance of the model



DROPOUT

- I have also added a dropout layer because this reduces some overfitting issues by removing some connections randomly to reduce the complexity of the model

PROJECT DEMONSTRATION