

## **Group No: 20**

### **Project Title: Fire and Smoke Detection using Images**

#### **Group Members:**

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### **Weekly Progress Report**

#### **➤ Tasks Performed in the week:**

- In this week we started to learn more about CNN.  
(Convolutional Neural Network used to detect smoke and fire in images)
- We have learned about build method.
- Also, we have learned about layers.

#### **➤ Outcome of the task performed:**

- In this week we have learn that this network utilizes depth wise separable convolution rather than standard convolution as depth wise separable convolution:
  - Is more efficient, as Edge/IoT devices will have limited CPU and power draw.
  - Requires less memory, as again, Edge/IoT devices have limited RAM.

- Requires less computation, as we have limited CPU horsepower.
  - Can perform better than standard convolution in some cases, which can lead to a better fire/smoke detector.
- Also, build method accepts parameters including dimensions of our images (width, height, depth) as well as the number of classes we will be training our model to recognize (i.e., this parameter affects the softmax classifier head shape).

➤ **Tasks to be performed in the upcoming week:**

- In next week we will be implementing on Convolutional Neural Network model class.