Group No: 20

Project Title: Fire and Smoke Detection using Images

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Weekly Progress Report

- **Tasks Performed in the week:**

  - Last week we learned about CNN and how to use build method and in this week we have Implemented those.

- **Outcome of the task performed:**

  - As we have learned CNN is more efficient, require less memory power, require less computational power, and can perform better than standard convolution in some cases.
  - For CNN 1st define FireDetectionNet class we begin by defining build method, which accepts the parameter including dimension of our images.
  - After that we have defined the first set of layers
    CONV => RELU => POOL

- These layers use a larger kernel size to both
  (1) reduce the input volume spatial dimensions faster,
  (2) detect larger color blobs that contain fire.
- Then we defined more CONV => RELU => POOL layer sets.
- Then we allowed our model to learn richer features by stacking two sets of CONV => RELU before applying a POOL.
- After that we have created our fully connected head of the network.

- **<u>Tasks to be performed in the upcoming week:</u>**

  - In next week we will be working on creating the training script.