Improvement 2 - Loading the dataset efficiently using Data Loaders

Recap: Implementation of VGG-16 in PyTorch

Loading the dataset

```
# load images and store it in numpy array

# empty list to store the images
X = []

# iterating over each image
for img_name in data.image_names:

    # loading the image using its name
    img = plt.imread('Dataset/images/' + img_name)

    # normalizing the pixel values
    img = img / 255.

    # saving each image in the list
    X.append(img)

# converting the list of images into array
X=np.array(X)

# storing the target variable in separate variable
y = data.emergency_or_not.values
```

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Recap: Implementation of VGG-16 in PyTorch

Creating batch and extracting features

```
# extract features for each batch
for i in tqdm(range(0,len(X),batch_size)):

    # indices for a batch
    ind = indices[i:i+batch_size]

    # batch
    batch_X=X[ind]

    # push to cuda
    if torch.cuda.is_available():
      batch_X = batch_X.cuda()

    # extract features
    batch_features=vgg16_model.features(batch_X)

    # converting to numpy
    batch_features = batch_features.data.cpu().numpy()

    # append in list
    features.append(batch_features)
```

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- Can load the data in batches, instead of loading it completely at once
- Reduces the computational cost

Torchvision Transforms

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- Pre-written codes for transformations to be applied on images

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- transforms.Compose applies all these transforms on images

Thank You

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