



KEERTHIKA REDDY  
JOSHITA REDDY

# SUMMER PROJECT REPORT

2021

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# ABSTRACT

We will be making an model, from which you can choose a video from your laptop. The model will be able to detect if there is any trigger with respect to phobias. The idea behind this application is that a lot of individuals can get triggered by videos that can cause panic attacks or anxiety. Therefore in order to prevent that, a model that will be trained on the different phobias so that it gives off a warning of potentially sensitive things present in the video.

The phobias we are including are:

1. Ailurophobia - Fear of Cats
2. Cynophobia- Fear of Dogs
3. Hippophobia - Fear of Horses

# FINAL REPORT

We made a model for checking images for cat, dog and horse. After that we import the video from the user. Our model converts the video into a frame of images and then goes through each image. Makes a prediction for each image and finds the count. If the count is more than 0 then the particular phobia is present

MODEL	ACCURACY	VALIDATION ACCURACY
Cat & Dog Model	85.9%	81.2%
Horse & Human	99.51%	74.22%

# WHAT WE REJECTED

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## 01 — Insect & Animal

### Phobia

Initially, we tried with Insect & Animal dataset and applied binary classification model on it. But then problem was that the dataset had too many categories(eg-lions, cats, bat etc.) so it wasn't able to properly distinguish between features which caused a poor accuracy of less than 5%.

Realising this, we moved on to categorical CNN which was giving around 40-50% accuracy. We tried improving accuracy by adding extra layers, changing optimisers & loss functions but which gave significant increase in accuracy(~70%) but not in validation accuracy.

The accuracy was high due to overfitting of the CNN model so we tried to rectify that by adding dropout layers which did not work out. We realised that the problem was due to the small dataset, so, we changed the phobias we considered.

# WHAT WE REJECTED

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## 02 — Depth analysis for fear of heights

Initially we were looking at a fear of heights model but we realised it was not feasible as determining the orientation of the phone was not possible. This was why we rejected this idea.

## 03 — Trypophobia

The dataset we used consisted of 2 categories- trypophobia & not trypophobia . The dataset was too generic for the not trypophobia part, because of which although the accuracy was good the predictions were coming out wrong.

Some images from the 'not-trypophobia' part of dataset



# WHAT WE REJECTED

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## 04 — Human prediction

Human prediction was not giving accurate prediction even though it had a good accuracy, as the dataset for human prediction is extremely vast.

# FURTHER POTENTIAL IMPROVEMENTS

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- We can use open cv for human prediction
- We can incorporate more phobias in the model
- We can deploy the model in an app and use it in real life