



# Dogs vs Cats Classification



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# Problem Definition



Classify Images whether it contains Dog or Cat using Convolution Neural Networks

Used The Asirra Dataset (From Kaggle)

# Describing the Arissa data



- ❖ Labelled Data (25000)
- ❖ Unlabelled Data (12500)

(We Used only Labelled Data)

- Train Data: (20000)
  - Dogs: 10003
  - Cats: 9997
- Testing Data: (5000)
  - Dogs: 2463
  - Cats: 2537

# Models Tried



- ❑ Logistic Regression for Binary Classification
- ❑ Convolution Neural Networks

# Logistic Regression



- Labelled Dog as 1 and Cat as 0
- Reshaped all images to 64x64 (Using PIL)
- Used GaussianBlur // For Noise Reduction

Accuracy on Machine Data = 0.5432

Loss on Kaggle = 0.70145

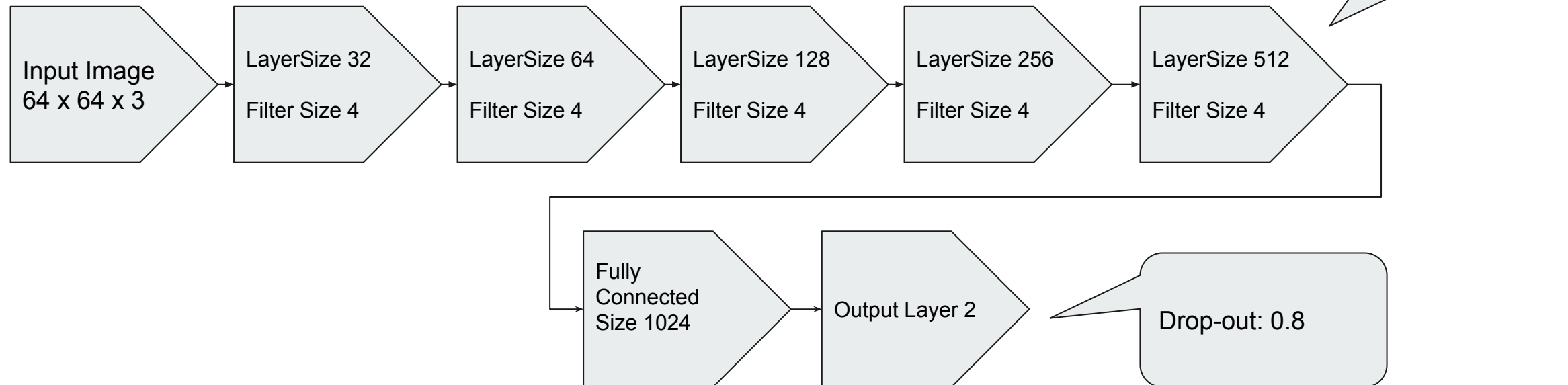
```
Training Data: (20000)
               Dogs: 10003
               Cats: 9997

Testing Data: (5000)
               Dogs: 2463
               Cats: 2537

Accuracy 0.5432
```

# CNN Preprocessing Data

- Labelled Dog as [0,1] and Cat as [1,0] - One Hot Encoding
- Reshaped all images to 64x64 (Using cv2)
- Saved images data in npy file for fast future access
- **Convolution Layers**



# CNN Accuracy



Image from TensorBoard



# Thank You