https://www.kaggle.com/c/dogs-vs-cats/data

kaggle Search Competitions Datasets Kernels Discussion Learn •••

Dogs vs. Cats

Create an algorithm to distinguish dogs from cats

215 teams · 5 years ago

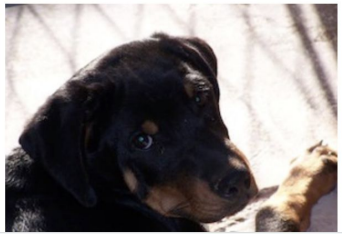
Overview Data Kernels Discussion Leaderboard Rules Team

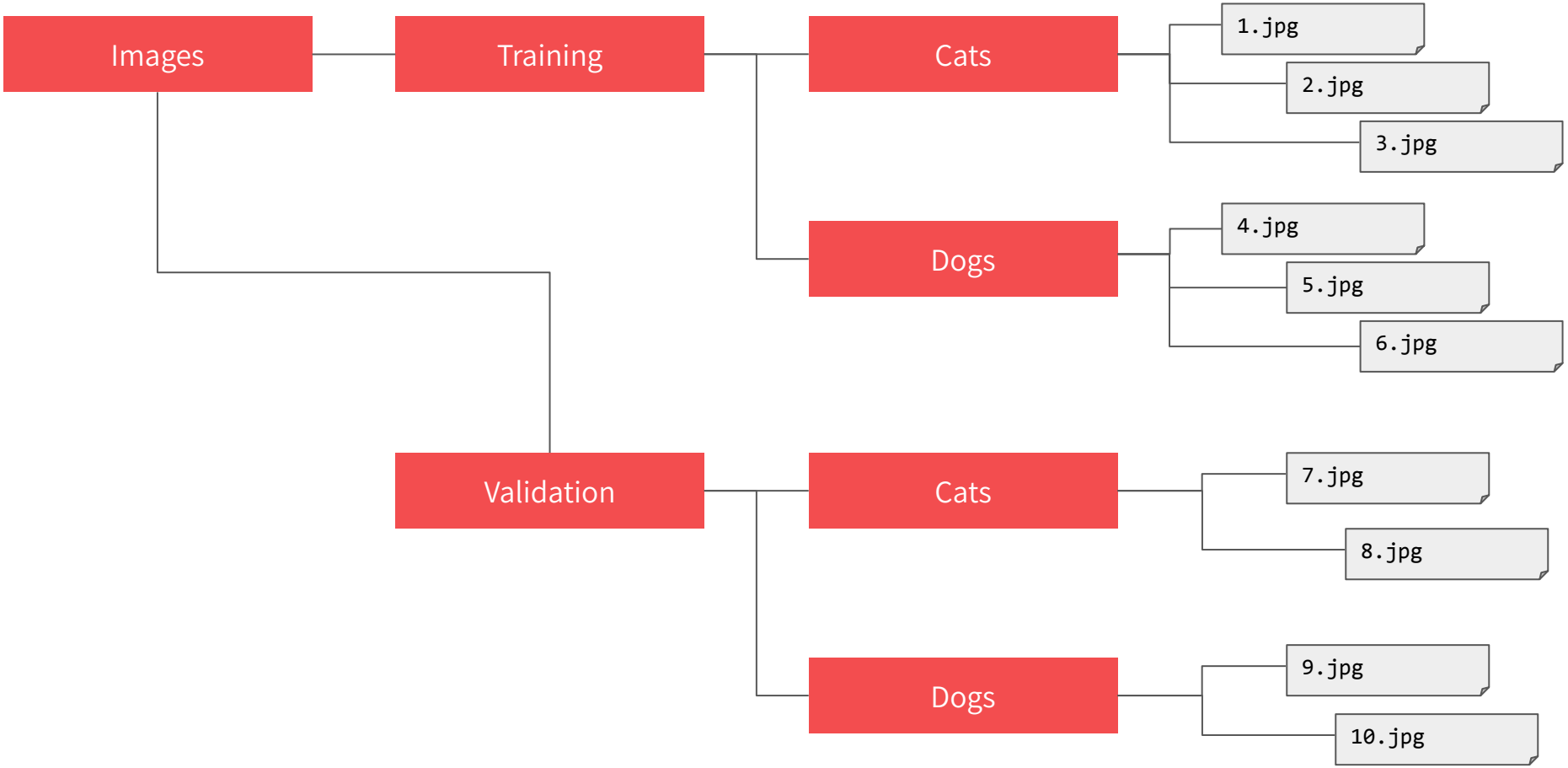
Data Description

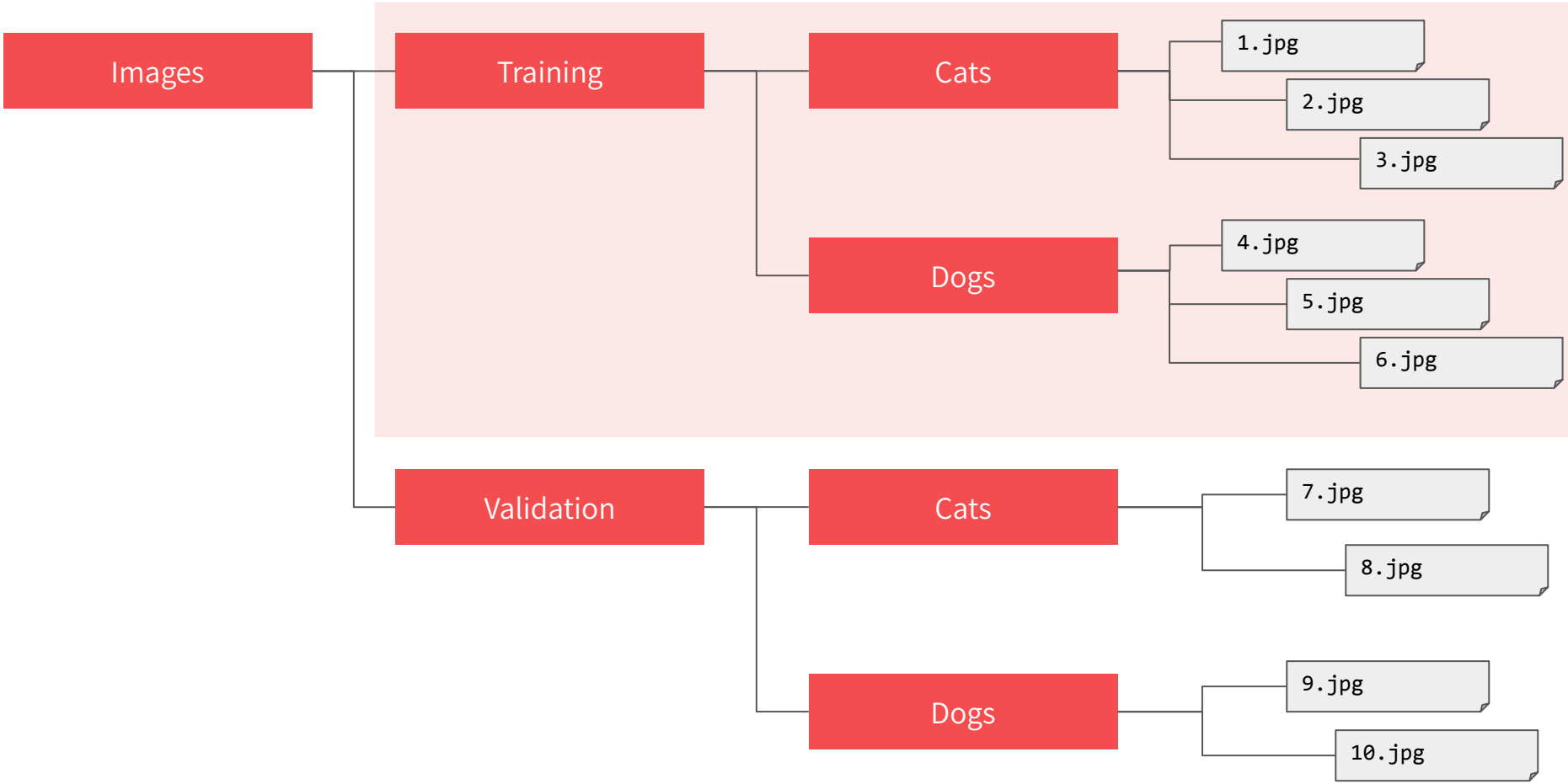
The training archive contains 25,000 images of dogs and cats. Train your algorithm on these files and predict the labels for test1.zip (1 = dog, 0 = cat).

A note on hand labeling

Per the rules and spirit of this contest, please do not manually label your submissions. We work hard to fair and fun contests, and ask for the same respect in return.




Images
Training
Cats
1.jpg
2.jpg
3.jpg
Dogs
4.jpg
5.jpg
6.jpg
Validation
Cats
7.jpg
8.jpg
Dogs
9.jpg
10.jpg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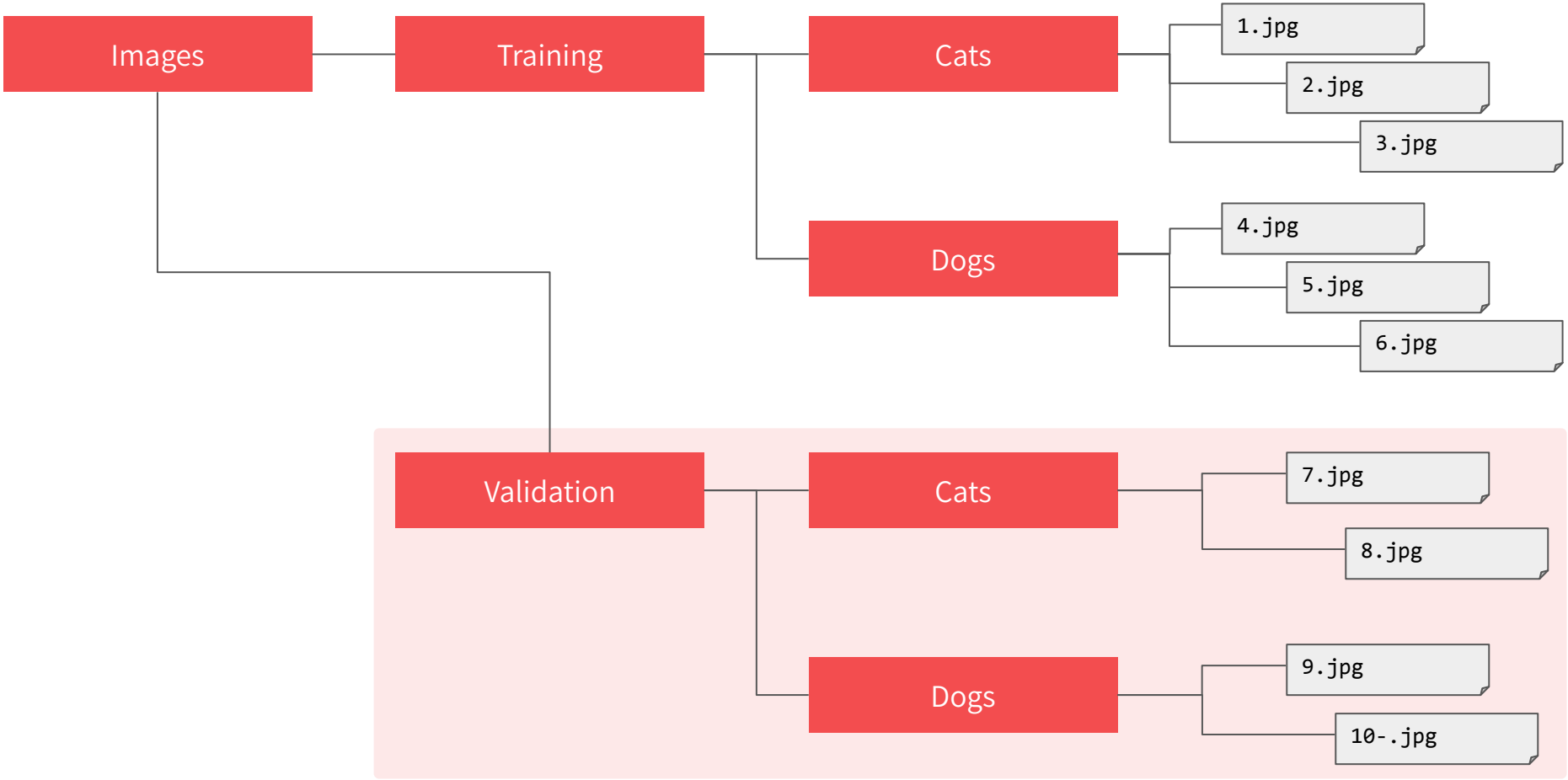
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```
train_dataset = tf.keras.utils.image_dataset_from_directory(
    train_dir,
    image_size=(150, 150),
    batch_size=20,
    label_mode='binary')
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validaton_dataset = tf.keras.utils.image_dataset_from_directory(
    validation_dir,
    image_size=(150, 150),
    batch_size=20,
    label_mode='binary')
```

```
AUTOTUNE = tf.data.AUTOTUNE

train_dataset_final =
train_dataset_scaled.cache().shuffle(1000).prefetch(buffer_size=AUTOTUNE)

validation_dataset_final =
validation_dataset_scaled.cache().prefetch(buffer_size=AUTOTUNE)
```

```
model = tf.keras.models.Sequential([
    tf.keras.Input(shape=(150, 150, 3)),
    tf.keras.layers.Rescaling(1./255),
    tf.keras.layers.Conv2D(16, (3, 3), activation='relu'),
    tf.keras.layers.MaxPooling2D(2, 2),
    tf.keras.layers.Conv2D(32, (3, 3), activation='relu'),
    tf.keras.layers.MaxPooling2D(2, 2),
    tf.keras.layers.Conv2D(64, (3, 3), activation='relu'),
    tf.keras.layers.MaxPooling2D(2, 2),
    tf.keras.layers.Flatten(),
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```

```
Layer (type)                 Output Shape              Param #
=================================================================
conv2d (Conv2D)              (None, 148, 148, 16)      448
_________________________________________________________________
max_pooling2d (MaxPooling2D) (None, 74, 74, 16)        0
_________________________________________________________________
conv2d_1 (Conv2D)            (None, 72, 72, 32)        4640
_________________________________________________________________
max_pooling2d_1 (MaxPooling2 (None, 36, 36, 32)        0
_________________________________________________________________
conv2d_2 (Conv2D)            (None, 34, 34, 64)        18496
_________________________________________________________________
max_pooling2d_2 (MaxPooling2 (None, 17, 17, 64)        0
_________________________________________________________________
flatten (Flatten)            (None, 18496)             0
_________________________________________________________________
dense (Dense)                (None, 512)               9470464
_________________________________________________________________
dense_1 (Dense)              (None, 1)                 513
=================================================================
Total params: 9,494,561
Trainable params: 9,494,561
Non-trainable params: 0
```

```
model.compile(loss='binary_crossentropy',
    optimizer=tf.keras.optimizers.RMSprop(learning_rate=0.001),
    metrics=['accuracy'])
```

```
history = model.fit(
      train_dataset_final,
      epochs=15,
      validation_data=validation_dataset_final,
      verbose=2)
```