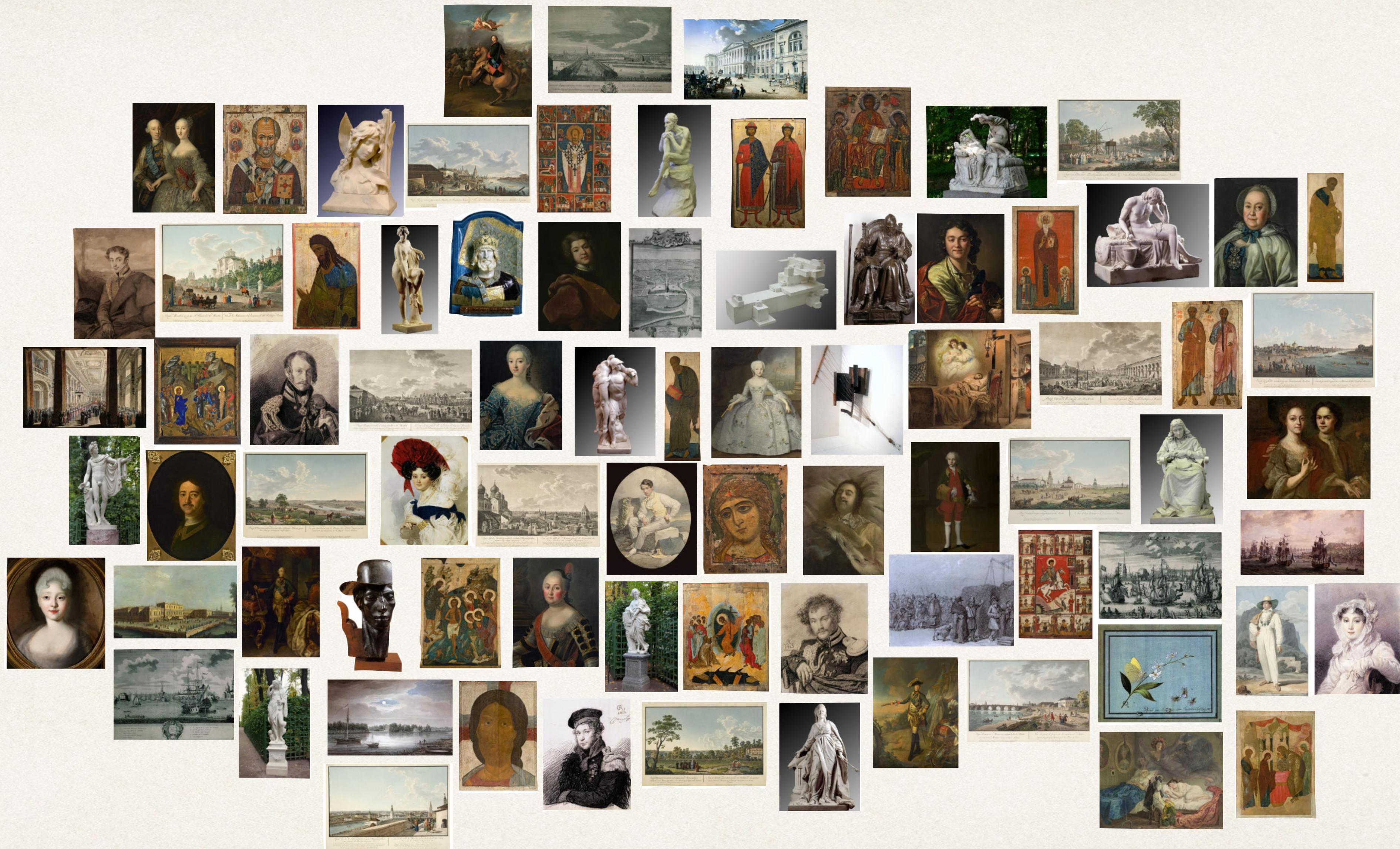


Art Images

- ❖ Drawings and Watercolours
- ❖ Paintings
- ❖ Sculptures
- ❖ Graphic Art
- ❖ Iconography (Old Russian Art)





ARTIFICIAL INTELLIGENCE

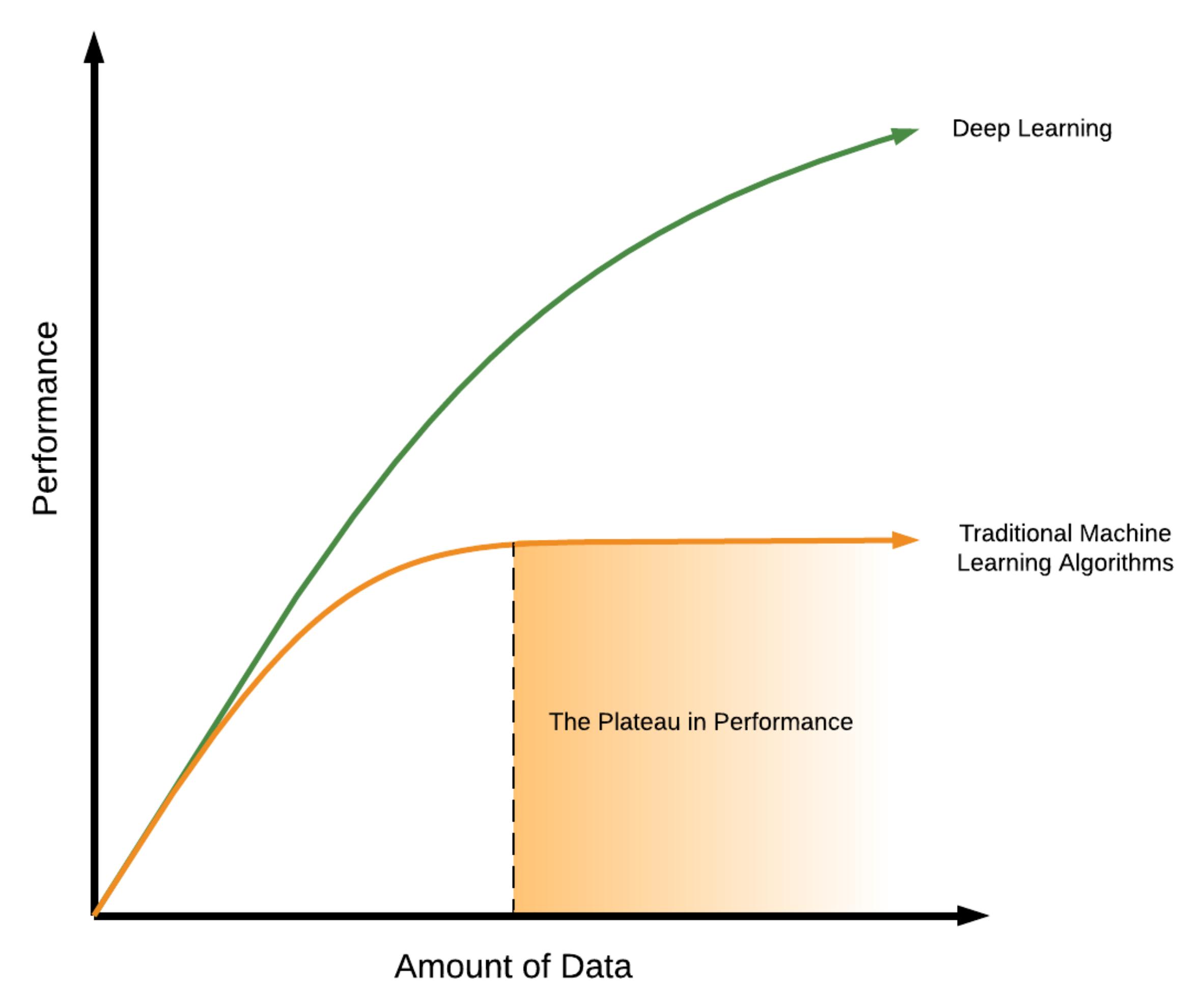
Programs with the ability to
learn and reason like humans

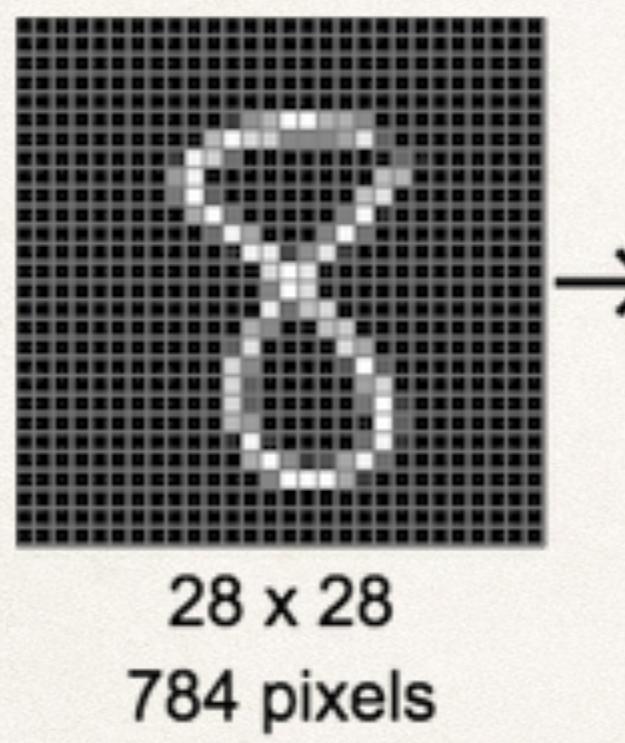
MACHINE LEARNING

Algorithms with the ability to learn
without being explicitly programmed

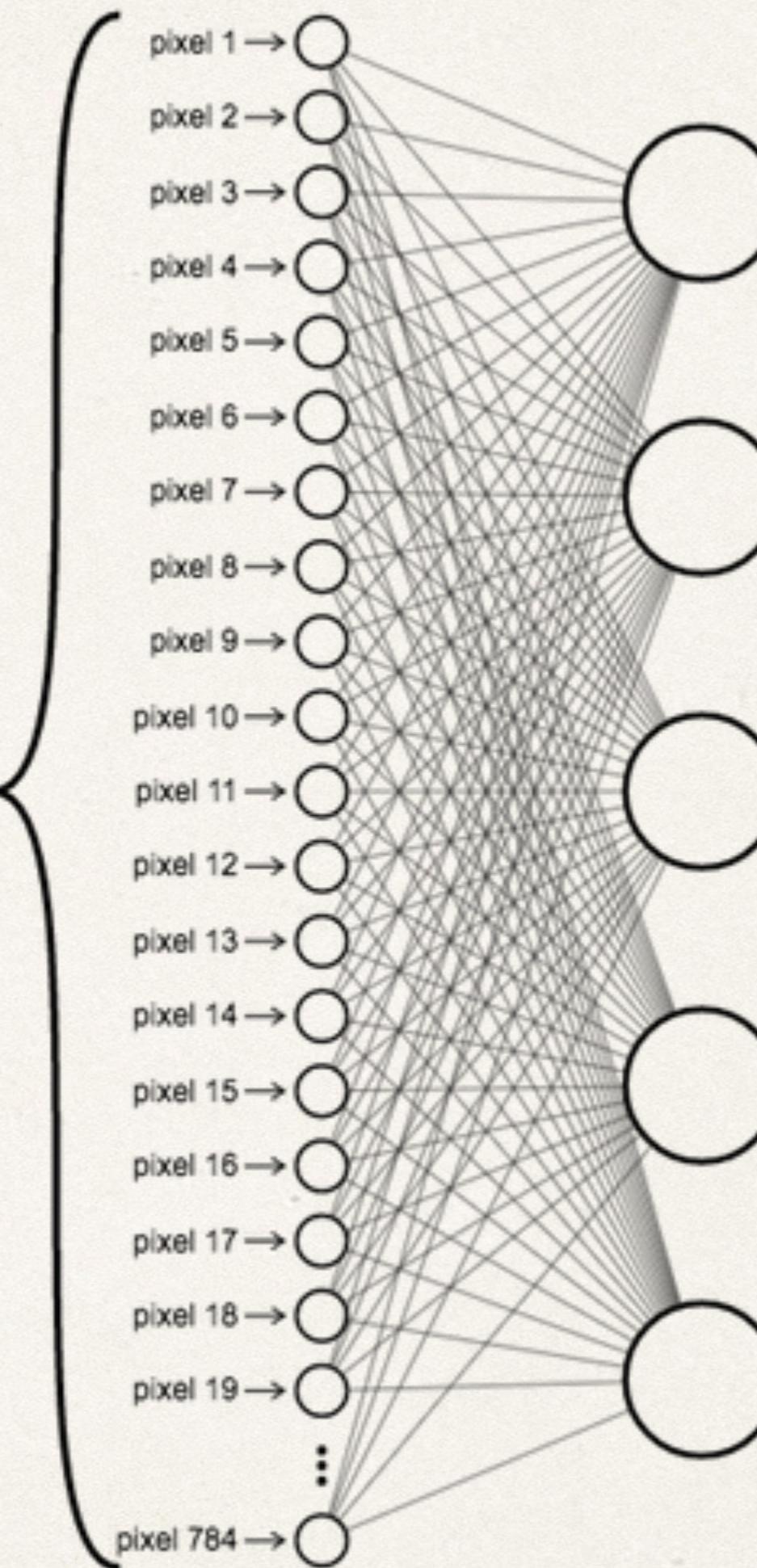
DEEP LEARNING

Subset of machine learning
in which artificial neural
networks adapt and learn
from vast amounts of data





**28 x 28
784 pixels**



Time

```
1 model = Sequential([
2     Conv2D(32, (3, 3), input_shape=input_shape),
3     Activation('relu'),
4     MaxPooling2D(pool_size=(2, 2)),
5
6     Conv2D(32, (3, 3)),
7     Activation('relu'),
8     MaxPooling2D(pool_size=(2, 2)),
9
10    Conv2D(64, (3, 3)),
11    Activation('relu'),
12    MaxPooling2D(pool_size=(2, 2)),
13
14    Flatten(),
15    Dense(64),
16    Activation('relu'),
17    Dropout(0.5),
18    Dense(5),
19    Activation('sigmoid')
20])
```

Test Accuracy: 91.88%



Time

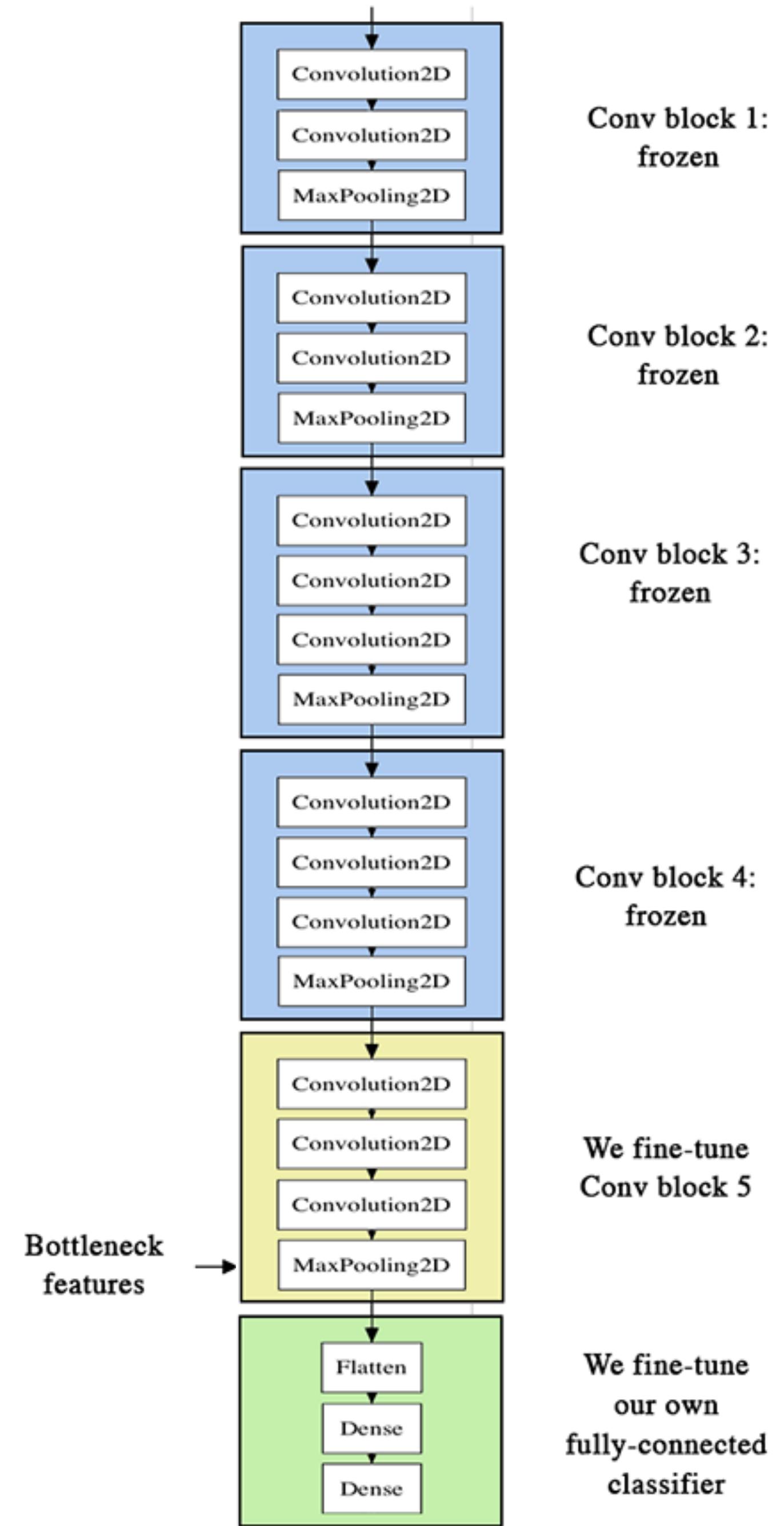
```
1 VGG16_model = VGG16(include_top=False,  
2                      weights='imagenet')  
3  
4 model = Sequential([  
5     VGG16_model,  
6     Flatten(input_shape=train_data.shape[1:]),  
7     Dense(256, activation='relu'),  
8     Dropout(0.5),  
9     Dense(1, activation='sigmoid')  
10    ])
```

Test Accuracy: 96.68%



Approach

- ❖ Fine tuning
- ❖ Epochs
- ❖ Batch size
- ❖ Save your model
- ❖ etc.



AWS

- ❖ GPUs (>10x faster)
- ❖ Environment management
- ❖ DevOps Automation



Conclusion

Pre-trained networks

AWS