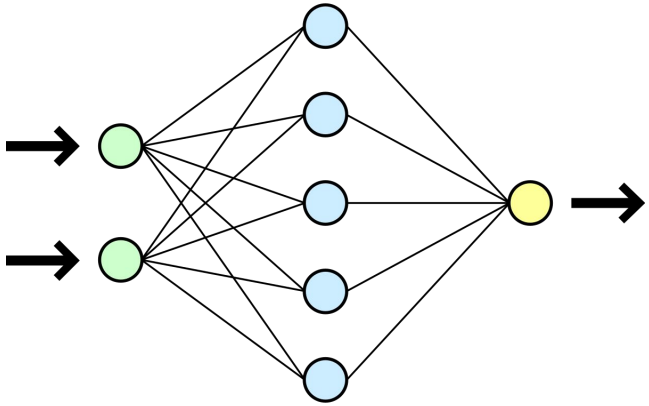

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Neural Networks

Training and Prediction with Neural Network

Recap - Last Video

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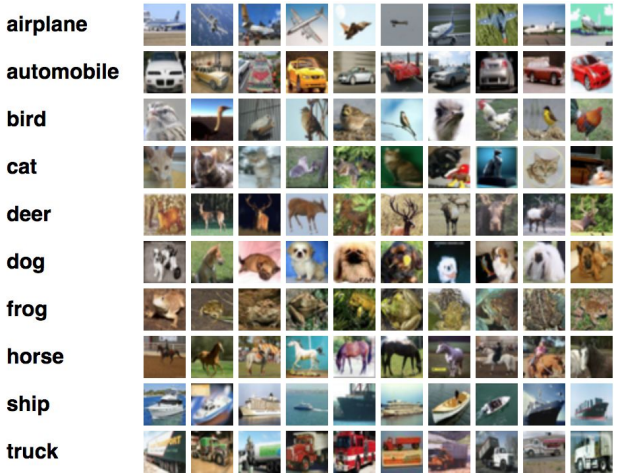
- Datasets in Deep Learning and Neural Networks
  - Training, Validation and Test sets
- How to create your own Dataset?
- Built-in Datasets in Keras and other frameworks
- Created the dataset for this video
  - Vaccine trial - side effects or no side effects



Training a Neural Network

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```
model = Sequential([
      Dense(units=12, input_shape=(1,), activation='relu'),
      Dense(units=24, activation='relu'),
      Dense(units=12, activation='relu'),
      Dense(units=2, activation='softmax')
])
```

```
Epoch 1/30
237/237 - 1s - loss: 0.7182 - accuracy: 0.4880 - val_loss: 0.6905 - val_accuracy: 0.5410
Epoch 2/30
237/237 - 0s - loss: 0.6615 - accuracy: 0.8305 - val_loss: 0.6345 - val_accuracy: 0.9067
Epoch 3/30
237/237 - 0s - loss: 0.6099 - accuracy: 0.9228 - val_loss: 0.5887 - val_accuracy: 0.9390
Epoch 4/30
237/237 - 0s - loss: 0.5571 - accuracy: 0.9462 - val_loss: 0.5345 - val_accuracy: 0.9467
```

Results from the Neural Network