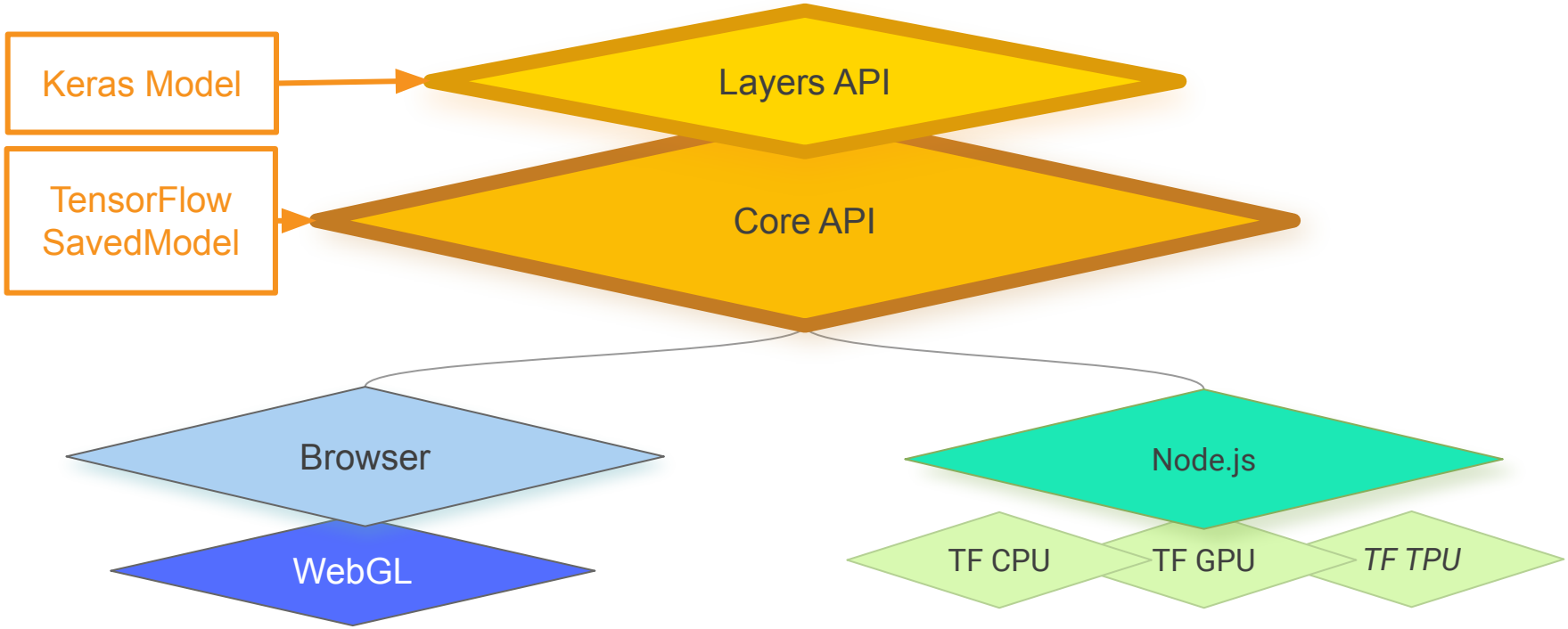
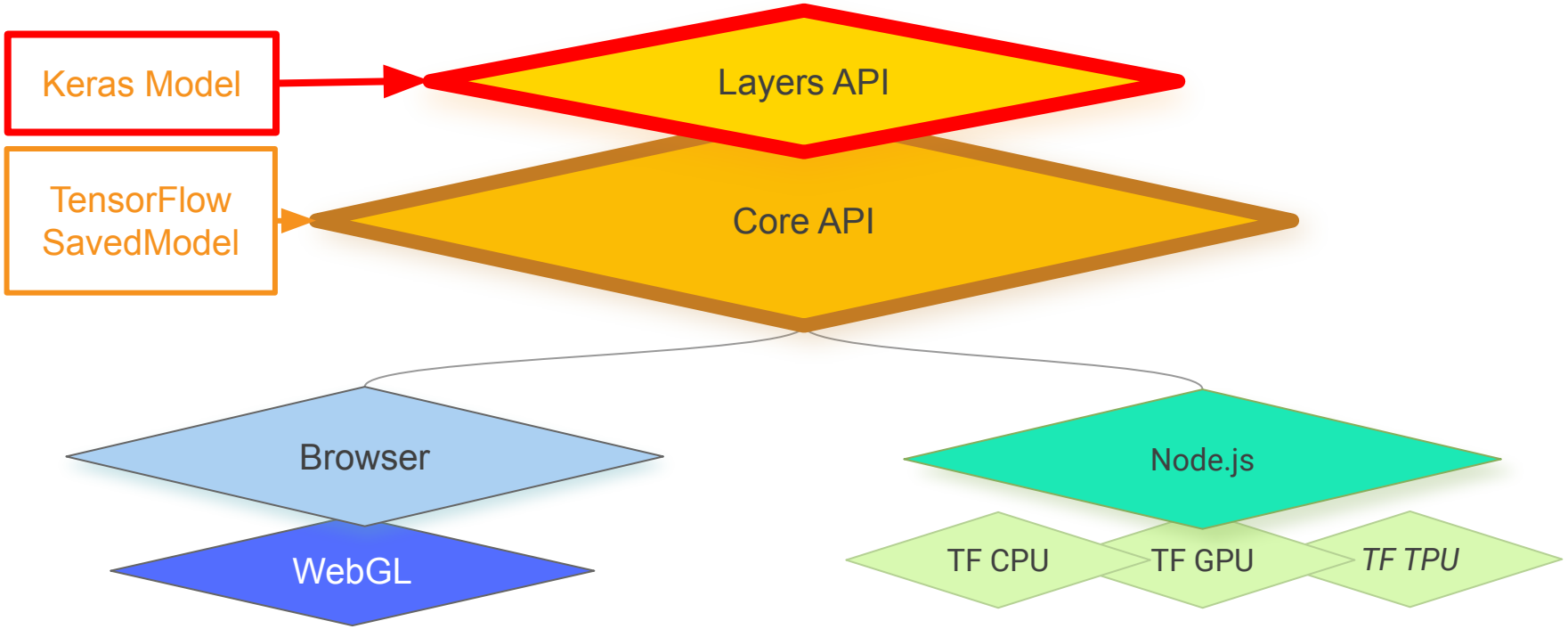
Copyright Notice

API


Keras Model
TensorFlow SavedModel
Layers API
Core API
Browser
WebGL
Node.js
TF CPU
TF GPU
TF TPU

API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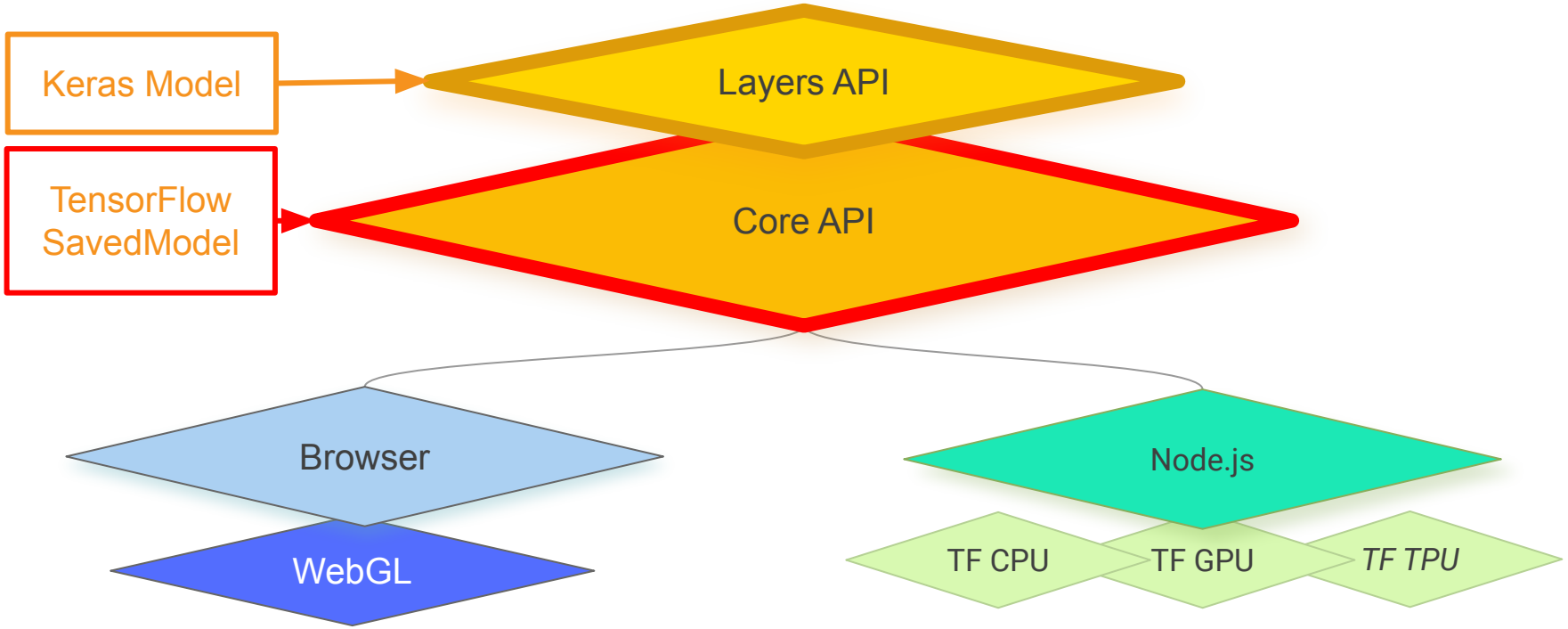
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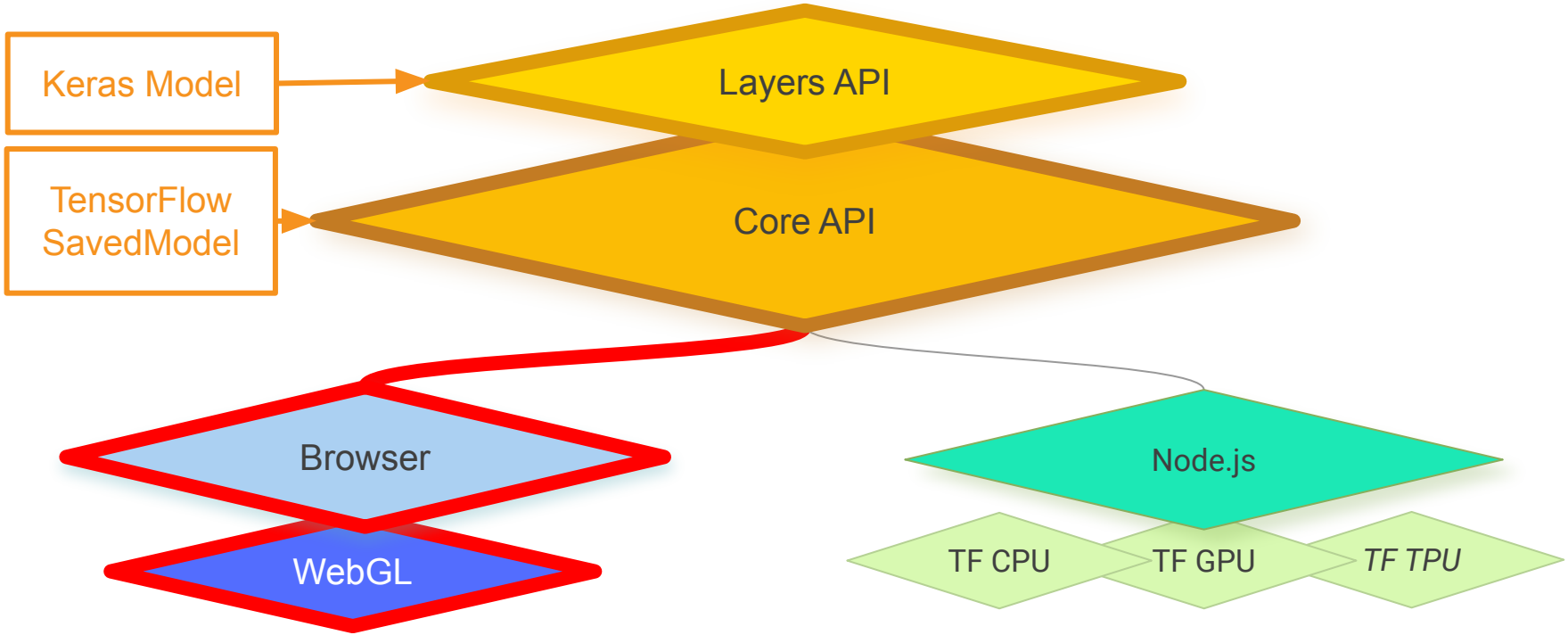
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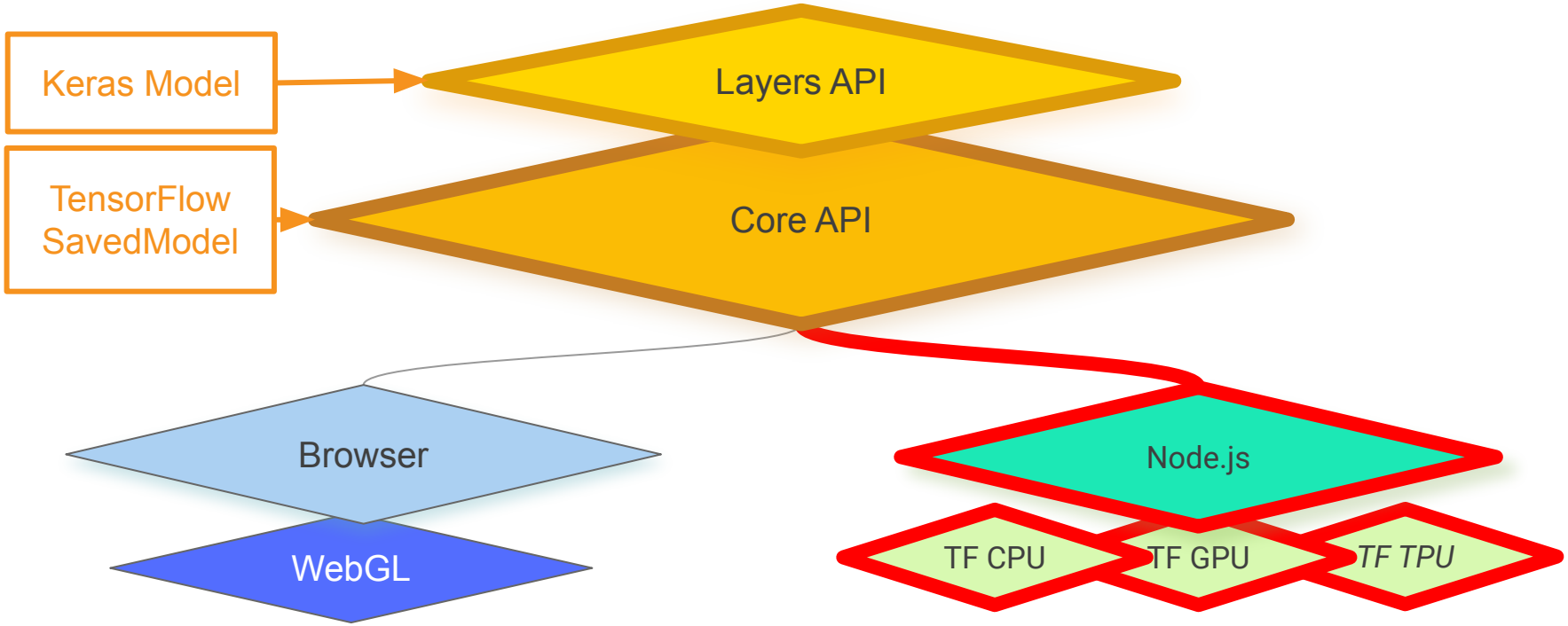
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```html
<html>
<head></head>
<body>
    <h1>First HTML Page</h1>
</body>
</html>
```

```html
<script src="https://cdn.jsdelivr.net/npm/@tensorflow/tfjs@latest"></script>
```

```
<script lang="js">
    const model = tf.sequential();
    model.add(tf.layers.dense({units: 1, inputShape: [1]}));
    model.compile({loss:'meanSquaredError',
                   optimizer:'sgd'});
    model.summary();
</script>
```

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    const model = tf.sequential();
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```

```
_________________________________________________________________
Layer (type)                 Output shape              Param #
=================================================================
dense_Dense1 (Dense)         [null,1]                  2
=================================================================
Total params: 2
Trainable params: 2
Non-trainable params: 0
_________________________________________________________________
```

```
const xs = tf.tensor2d([-1.0, 0.0, 1.0, 2.0, 3.0, 4.0], [6, 1]);
const ys = tf.tensor2d([-3.0, -1.0, 2.0, 3.0, 5.0, 7.0], [6, 1]);
```

```
const xs = tf.tensor2d([-1.0, 0.0, 1.0, 2.0, 3.0, 4.0], [6, 1]);
const ys = tf.tensor2d([-3.0, -1.0, 2.0, 3.0, 5.0, 7.0], [6, 1]);
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const xs = tf.tensor2d([-1.0, 0.0, 1.0, 2.0, 3.0, 4.0], [6, 1]);
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```

```
doTraining(model).then(() => {
    alert(model.predict(tf.tensor2d([10], [1,1])));
});
```

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    alert(model.predict(tf.tensor2d([10], [1,1])));
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```
async function doTraining(model){
    const history =
          await model.fit(xs, ys,
                { epochs: 500,
                  callbacks:{
                      onEpochEnd: async(epoch, logs) =>{
                          console.log("Epoch:" + epoch + " Loss:" + logs.loss);
                      }
                  }
                });
}
```

```javascript
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    const history =
          await model.fit(xs, ys,
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```

UCI

Machine Learning Repository

Center for Machine Learning and Intelligent Systems

Iris Data Set

Download: Data Folder, Data Set Description

Abstract: Famous database; from Fisher, 1936

Data Set Characteristics:	Multivariate	**Number of Instances:**	150	**Area:**	Life
Attribute Characteristics:	Real	**Number of Attributes:**	4	**Date Donated**	1988-07-01
Associated Tasks:	Classification	**Missing Values?**	No	**Number of Web Hits:**	2512455

Source:

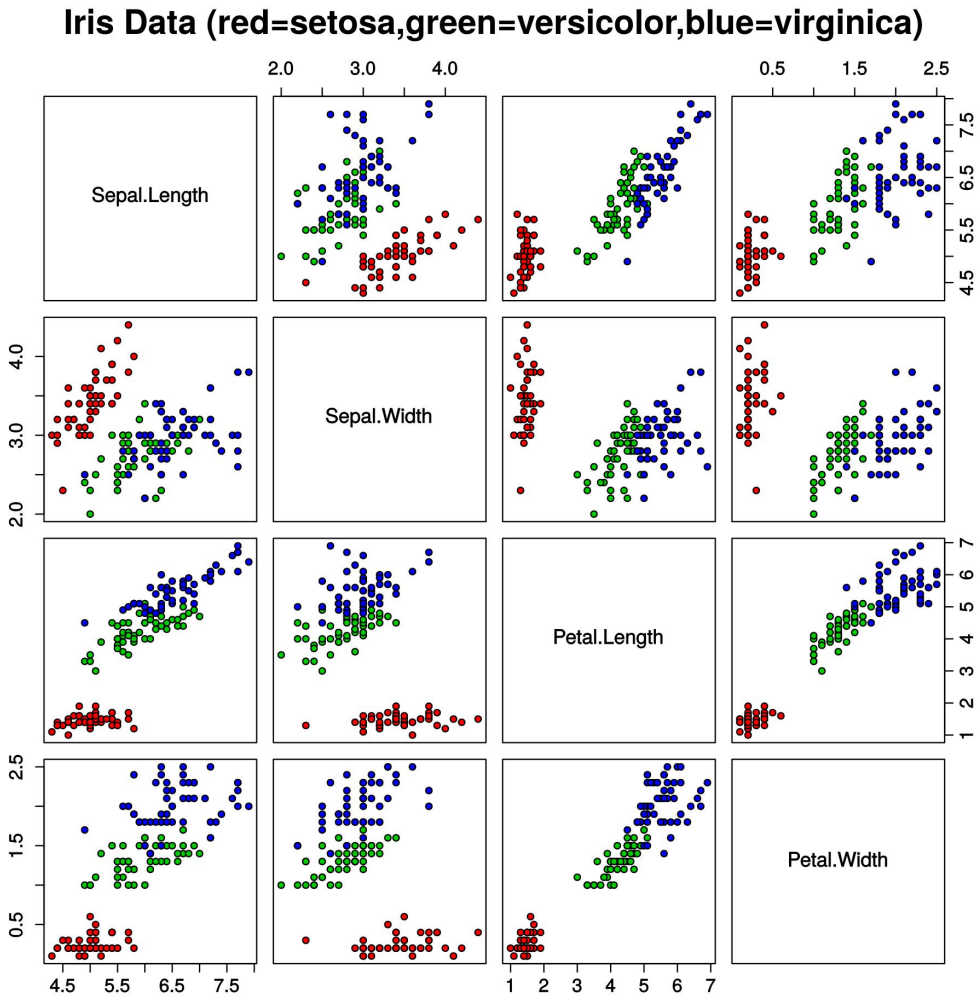
Creator:

R.A. Fisher

Donor:

Michael Marshall (MARSHALL%PLU '@' io.arc.nasa.gov)

https://archive.ics.uci.edu/ml/datasets/iris



```
sepal_length,sepal_width,petal_length,petal_width,species
5.1,3.5,1.4,0.2,setosa
4.9,3,1.4,0.2,setosa
4.7,3.2,1.3,0.2,setosa
4.6,3.1,1.5,0.2,setosa
5,3.6,1.4,0.2,setosa
5.4,3.9,1.7,0.4,setosa
4.6,3.4,1.4,0.3,setosa
5,3.4,1.5,0.2,setosa
```

```
async function run() {
}
```

```
const csvUrl = 'iris.csv';
const trainingData = tf.data.csv(csvUrl, {
    columnConfigs: {
        species: {
            isLabel: true
        }
    }
});
```

```
const csvUrl = 'iris.csv';
const trainingData = tf.data.csv(csvUrl, {
    columnConfigs: {
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        }
    }
});
```

```
const convertedData =
  trainingData.map(({xs, ys}) => {
    const labels = [
      ys.species == "setosa" ? 1 : 0,
      ys.species == "virginica" ? 1 : 0,
      ys.species == "versicolor" ? 1 : 0 ]

    return{ xs: Object.values(xs), ys:Object.values(labels)};

  }).batch(10);
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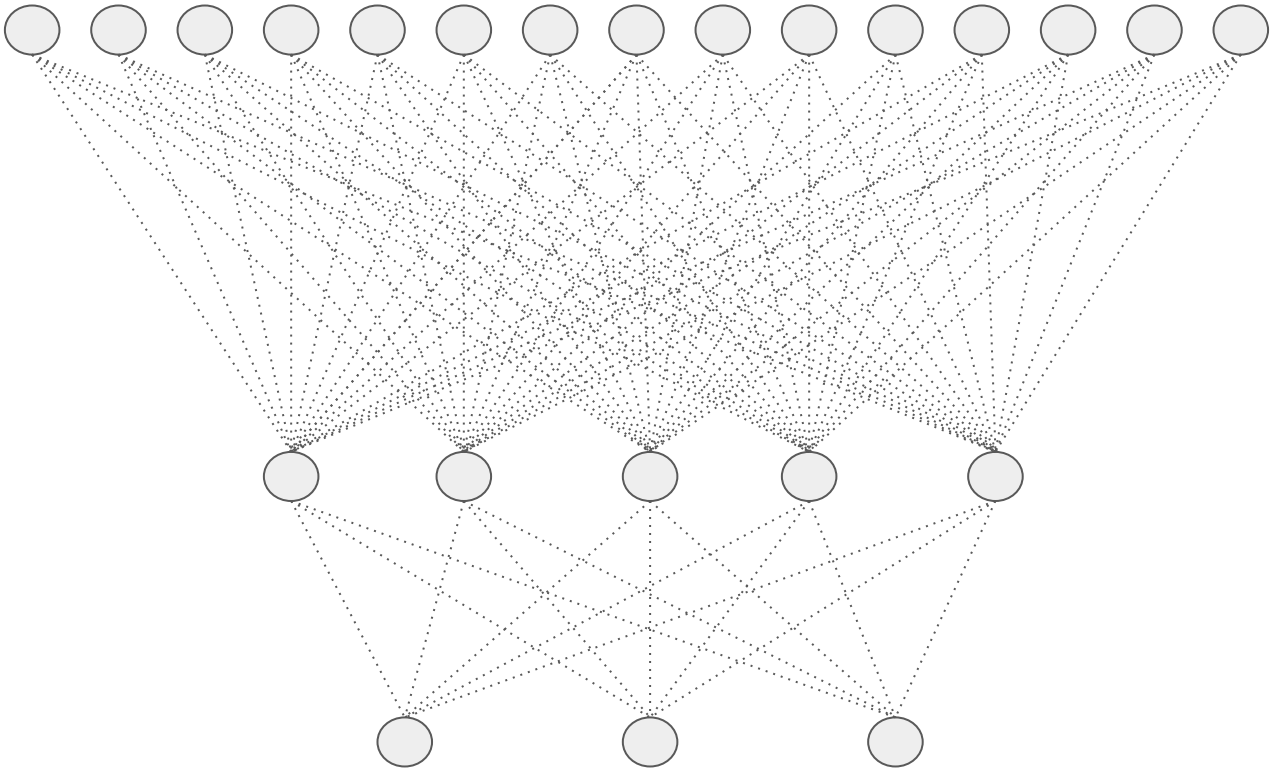
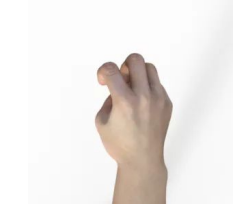
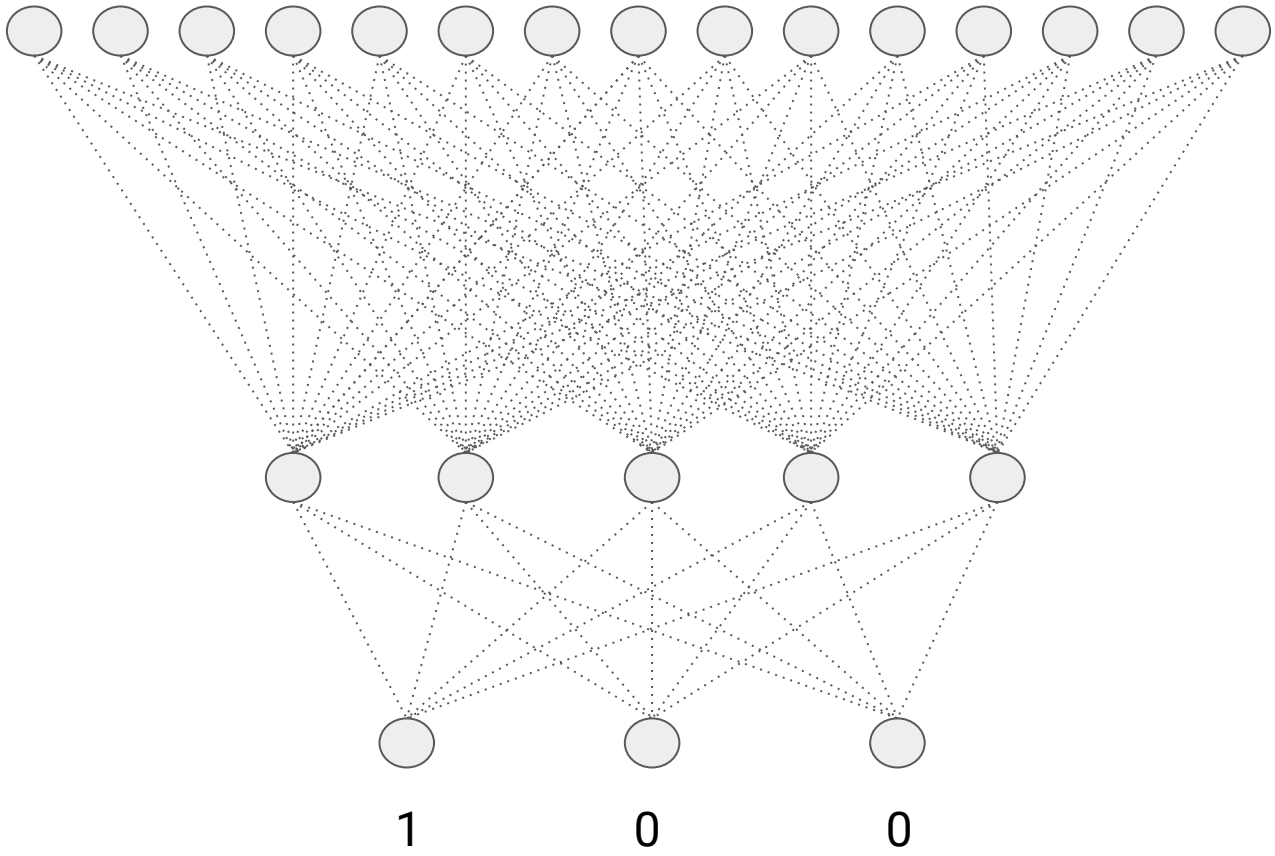
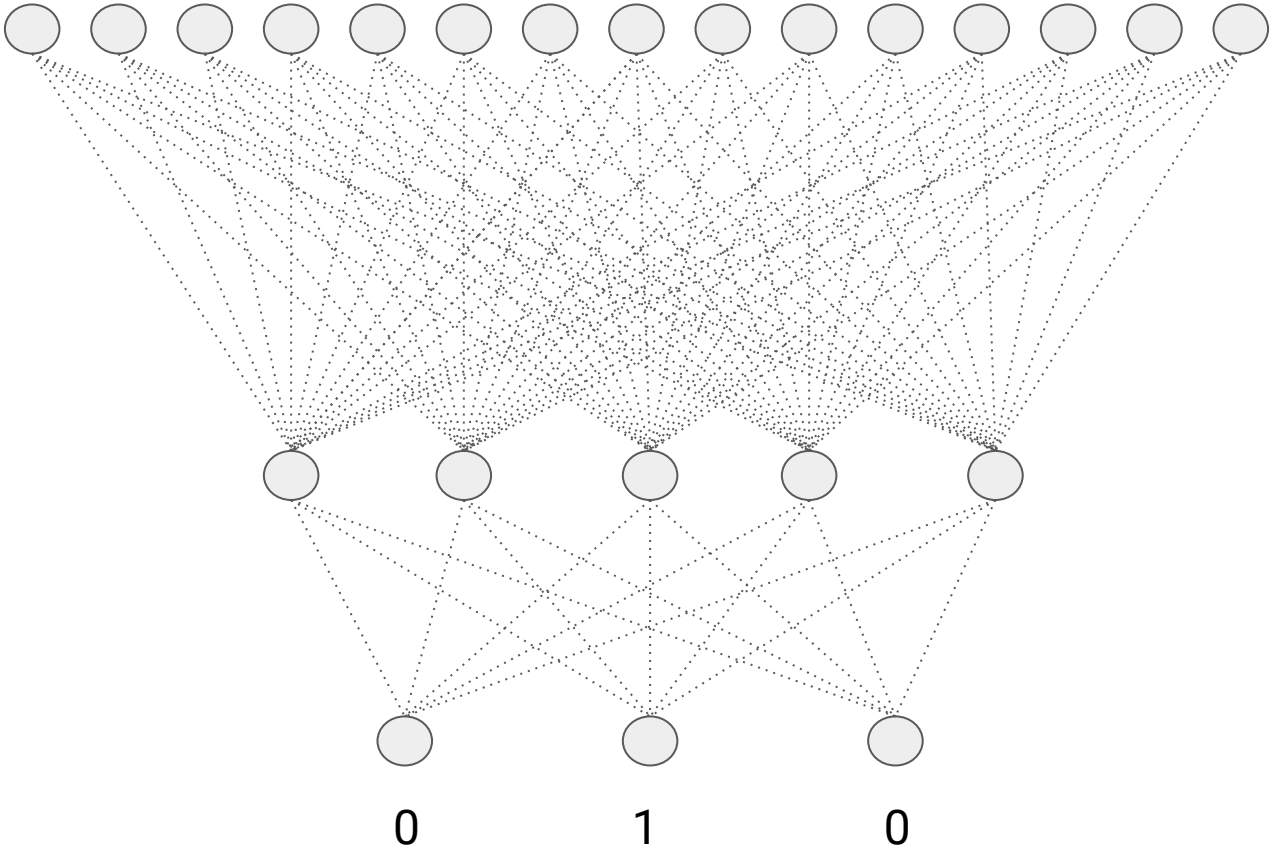
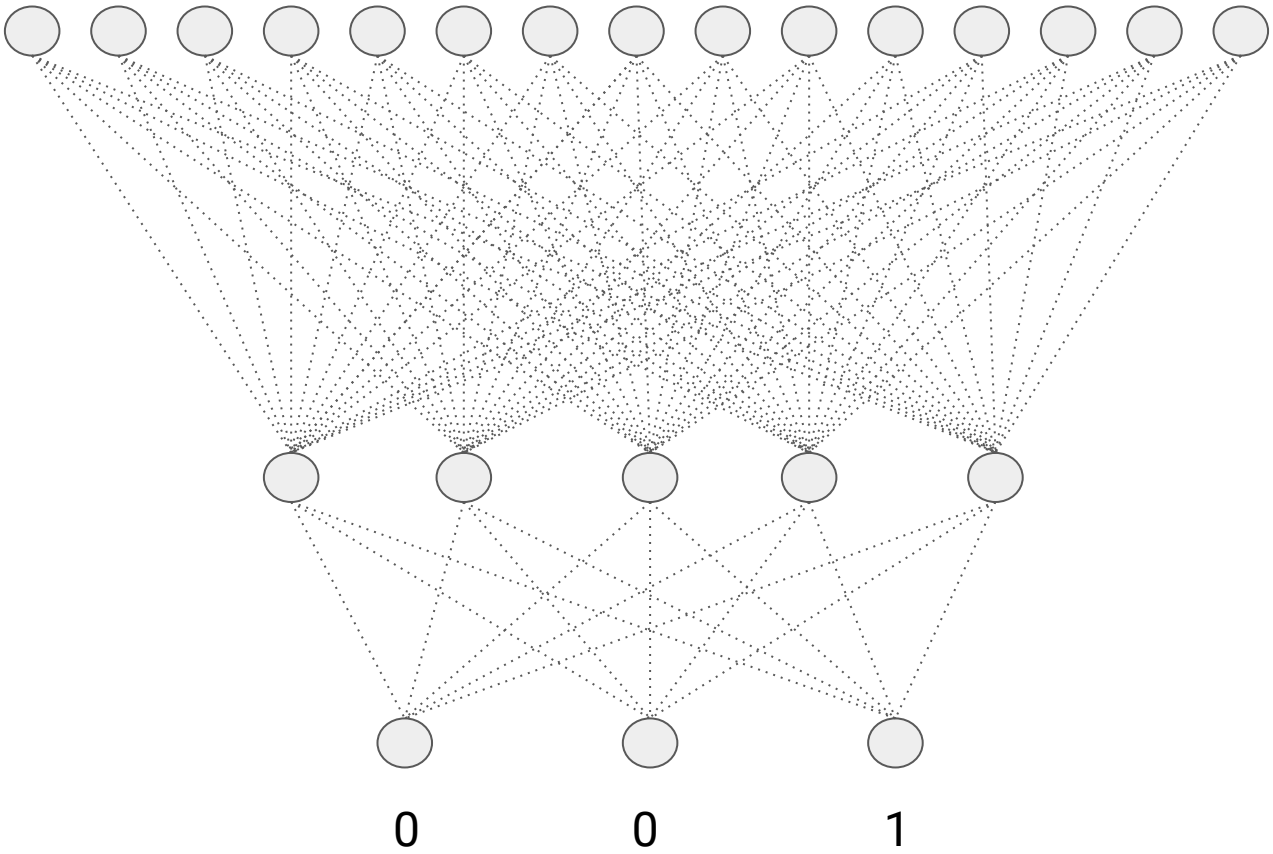





1
0
0


0
1
0


0
0
1

1 0 0

0 1 0

0 0 1

setosa	1	0	0
virginica	0	1	0
versicolor	0	0	1

```
const convertedData =
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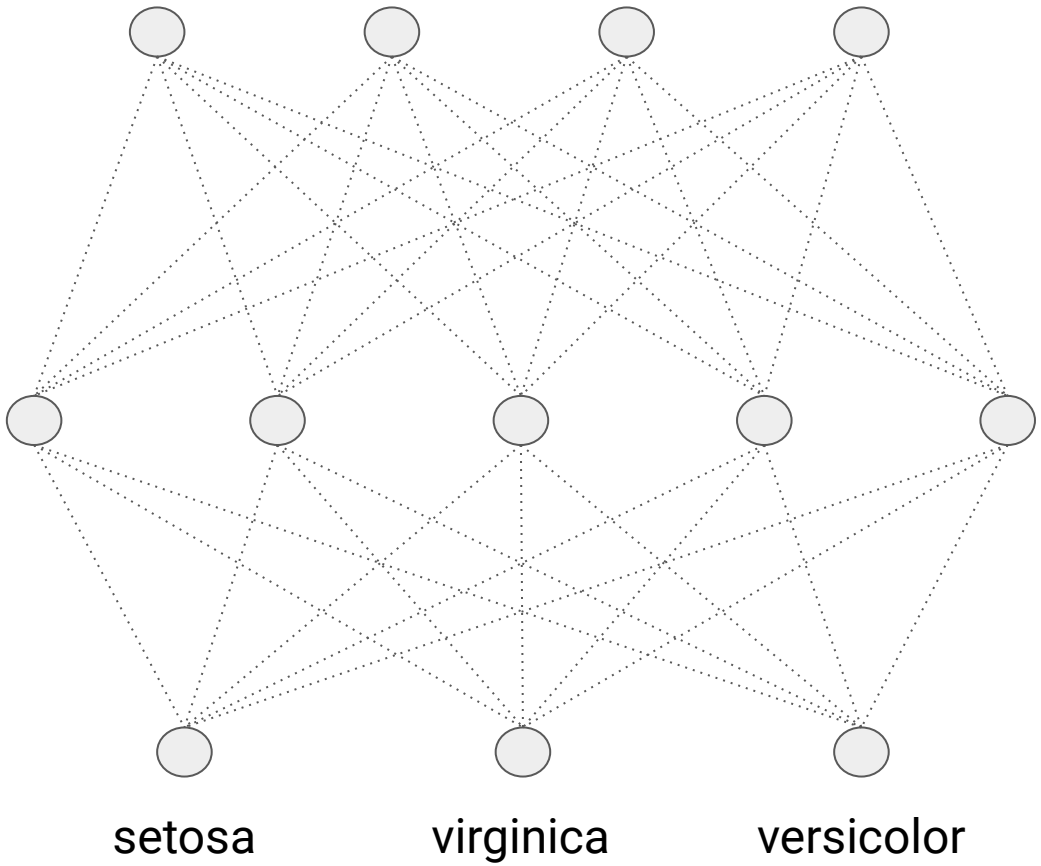
setosa
virginica
versicolor

```
const model = tf.sequential();

model.add(tf.layers.dense({
      inputShape: [numOfFeatures],
      activation: "sigmoid", units: 5}))

model.add(tf.layers.dense({activation: "softmax", units: 3}));
```

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const model = tf.sequential();

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model.add(tf.layers.dense({
      inputShape: [numOfFeatures],
      activation: "sigmoid", units: 5}))

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```

```
model.compile({
    loss: "categoricalCrossentropy",
    optimizer: tf.train.adam(0.06)})
```

```
await model.fitDataset(
    convertedData,
    {
        epochs:100,
        callbacks:{
        onEpochEnd: async(epoch, logs) =>{
          console.log("E: " + epoch + " Loss: " + logs.loss);
        }
    }
});
```

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    {
        epochs:100,
        callbacks:{
        onEpochEnd: async(epoch, logs) =>{
          console.log("E: " + epoch + " Loss: " + logs.loss);
        }
    }
});
```

```
const testVal = tf.tensor2d([5.8, 2.7, 5.1, 1.9], [1, 4]);
const prediction = model.predict(testVal);
alert(prediction);
```

```
const testVal = tf.tensor2d([5.8, 2.7, 5.1, 1.9], [1, 4]);
const prediction = model.predict(testVal);
alert(prediction);
```

```
const testVal = tf.tensor2d([5.8, 2.7, 5.1, 1.9], [1, 4]);
const prediction = model.predict(testVal);
alert(prediction);
```

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const testVal = tf.tensor2d([5.8, 2.7, 5.1, 1.9], [1, 4]);
const prediction = model.predict(testVal);
alert(prediction);
```