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Supervised Machine Learning (Decision Tree Classification - Tree plot)

In [2]:
```
# Load data set

import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt

df = sns.load_dataset("iris")
df.head()
```

Out[2]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

In [3]:
```
from sklearn.tree import DecisionTreeClassifier

X = df.iloc[:,:-1]
y = df.iloc[:,-1:]
```

In [4]:
```
X.head()
```

Out[4]:

	sepal_length	sepal_width	petal_length	petal_width
0	5.1	3.5	1.4	0.2
1	4.9	3.0	1.4	0.2
2	4.7	3.2	1.3	0.2
3	4.6	3.1	1.5	0.2
4	5.0	3.6	1.4	0.2

In [5]:
```
y.head()
```

Out[5]:

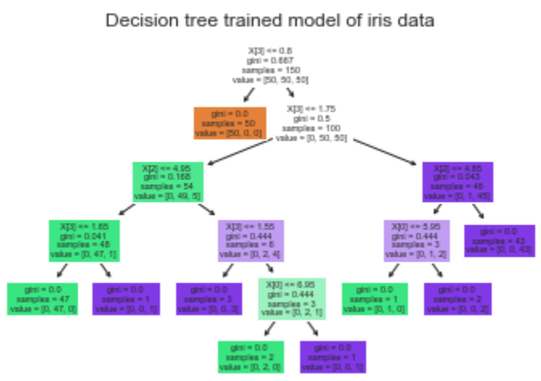
	species
0	setosa
1	setosa
2	setosa
3	setosa
4	setosa

In [6]:
```
from sklearn.tree import DecisionTreeClassifier
from sklearn.tree import plot_tree

model = DecisionTreeClassifier().fit(X,y)

sns.set_style("darkgrid")

image = plot_tree(model, filled = True)
plt.title("Decision tree trained model of iris data")
plt.show()
```



ASSIGNMENT

In [8]:
```
plt.savefig("tree_plot.jpg")
```

```
<Figure size 432x288 with 0 Axes>
```

In [9]:
```
plt.savefig("tree_plot.pdf")
```

```
<Figure size 432x288 with 0 Axes>
```

In [10]:
```
plt.savefig("tree_plot.png")
```

```
<Figure size 432x288 with 0 Axes>
```

In [11]:
```
plt.savefig("tree_plot.svg")
```

```
<Figure size 432x288 with 0 Axes>
```

In [13]:
```
plt.savefig("tree_plot.tiff")
```

```
<Figure size 432x288 with 0 Axes>
```

In [ ]:
```

```