

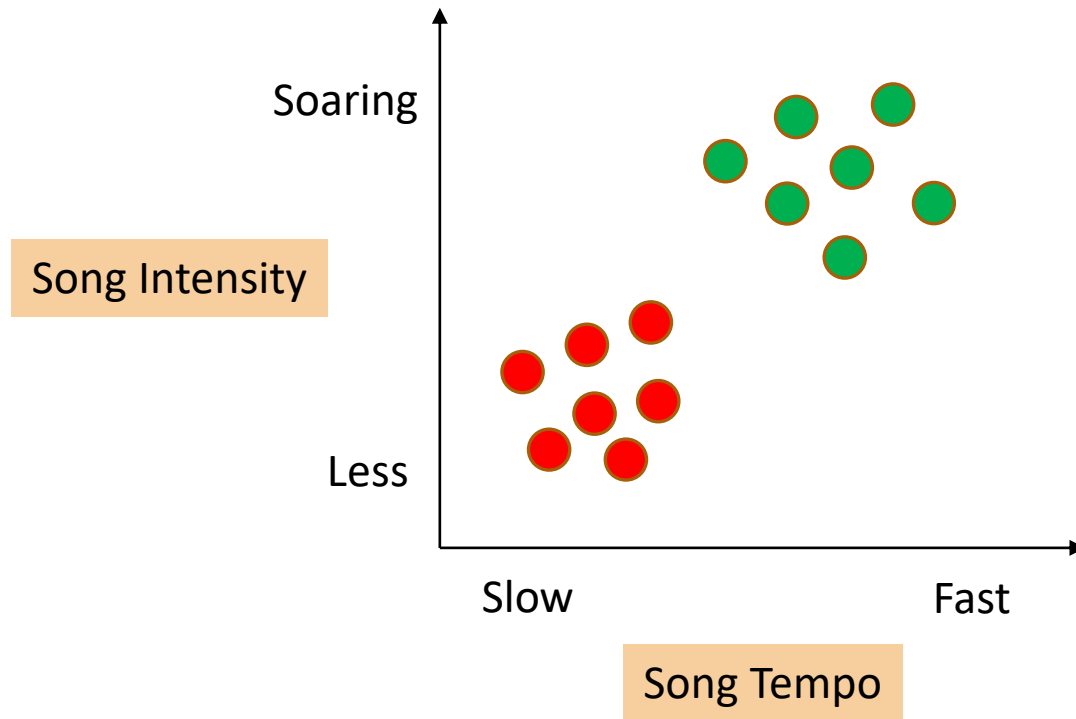
# KNN Classifier and Regressor

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UTKARSH GAIKWAD

# Example of KNN (K Nearest Neighbours) Classification

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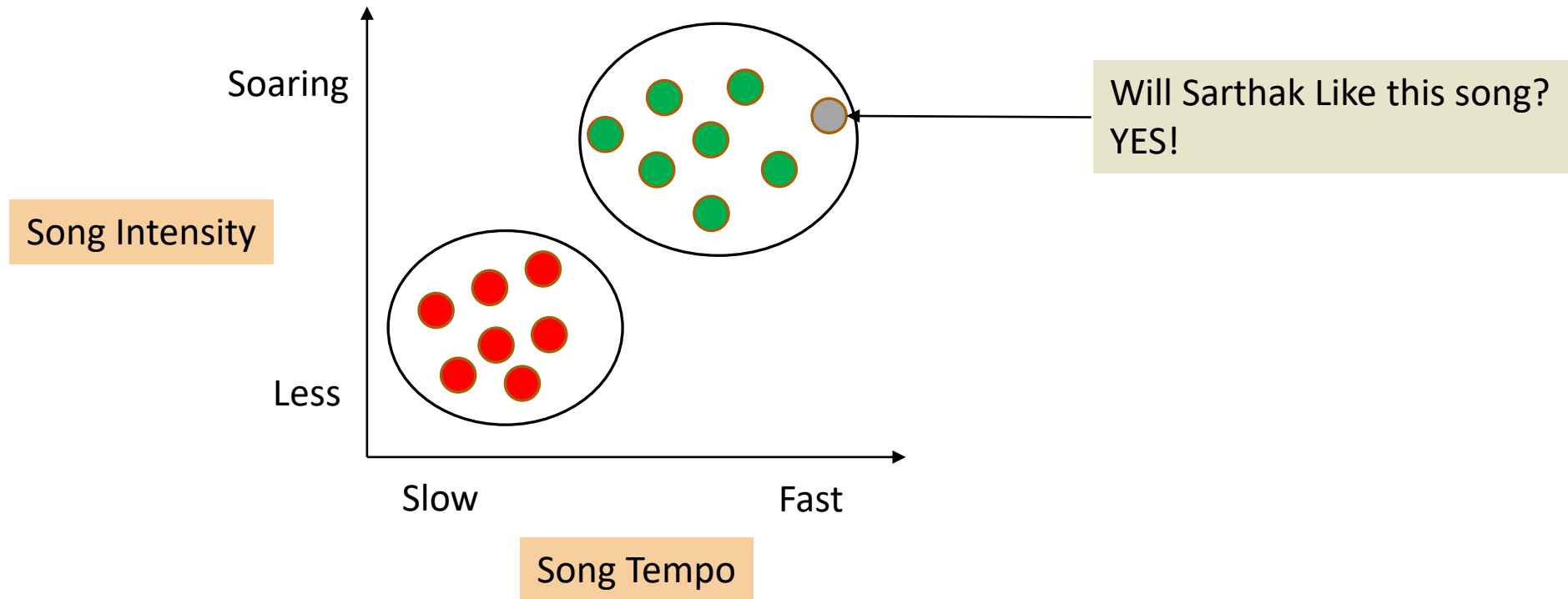
Sarthak



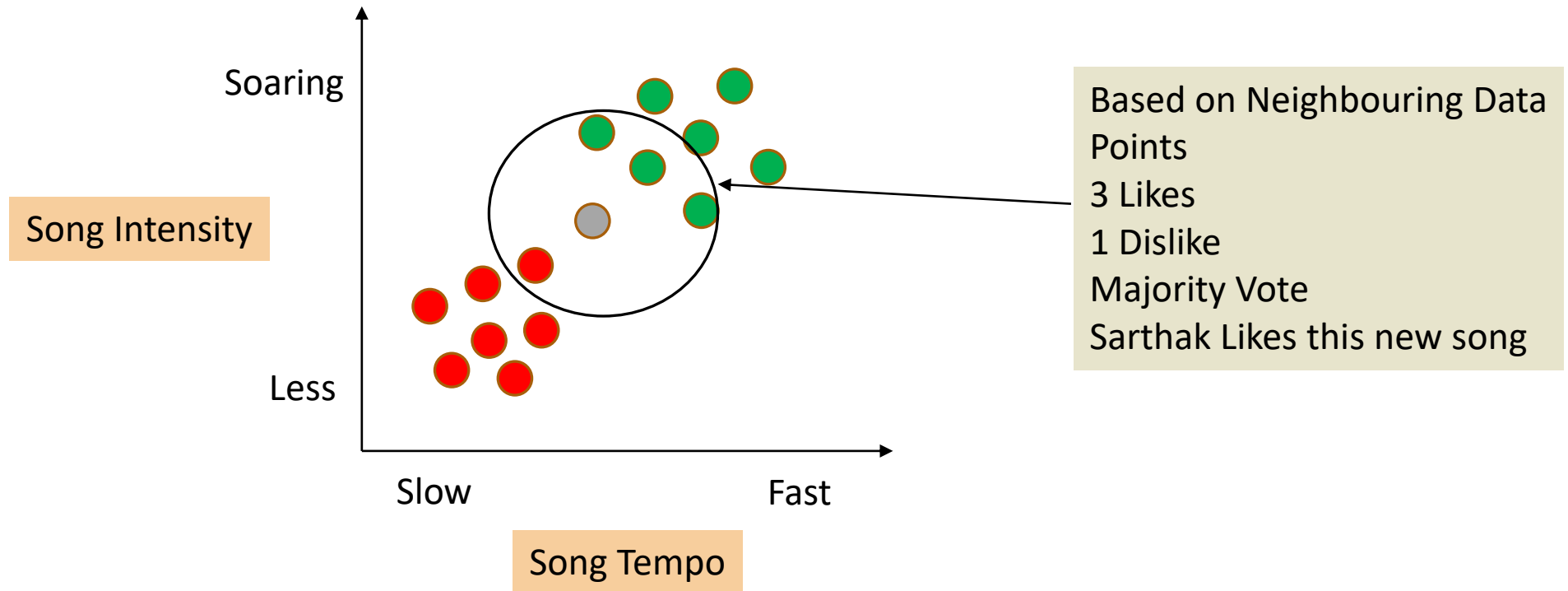
Likes listening to music

# Will Sarthak like new song ? Fast tempo, Soaring Intensity

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# Medium Tempo , Medium Intensity



This Algorithm Called as KNN (K-Nearest-Neighbours)

# KNN code example

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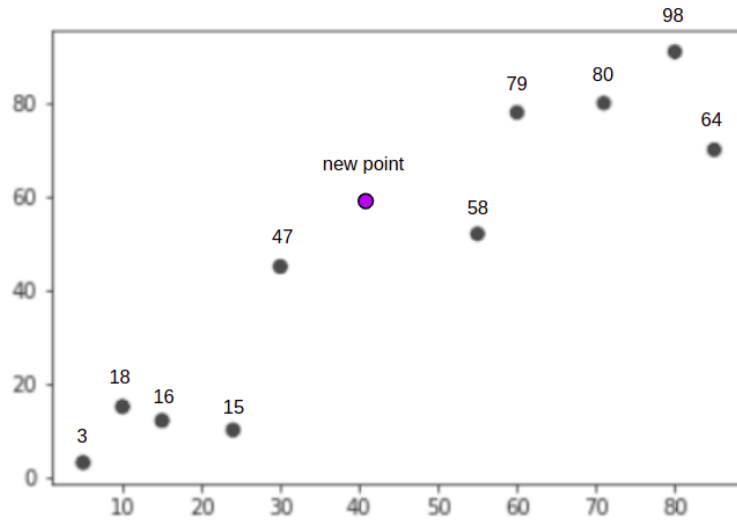
Scaling the Data is necessary in KNN Algorithm

```
1 # KNN Classifier
2 from sklearn.neighbors import KNeighborsClassifier
3 model = KNeighborsClassifier(n_neighbors=5)
4 model.fit(xtrain,ytrain)
```

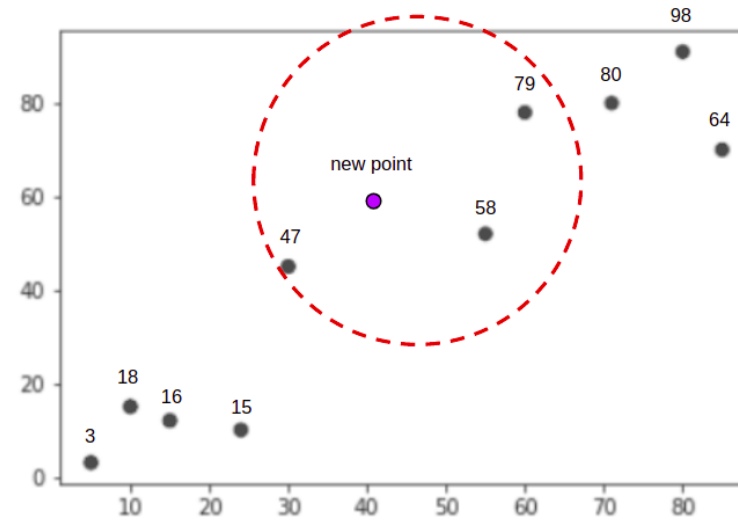
```
1 # KNN Regressor
2 from sklearn.neighbors import KNeighborsRegressor
3 model = KNeighborsRegressor(n_neighbors=5)
4 model.fit(xtrain,ytrain)
```

# KNN Regressor example

KNN Regression, K = 3



KNN Regression, K = 3



$$\text{new point} = (47 \cdot \text{weight} + 58 \cdot \text{weight} + 79 \cdot \text{weight}) / 3$$

if weight = 1 for all 3 neighboring points:

$$\text{new point} = (47 \cdot 1 + 58 \cdot 1 + 79 \cdot 1) / 3$$

$$\text{new point} = 61,333$$

# Thank you

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