머글들을 위한
Machine Learning 5

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The Iris Dataset

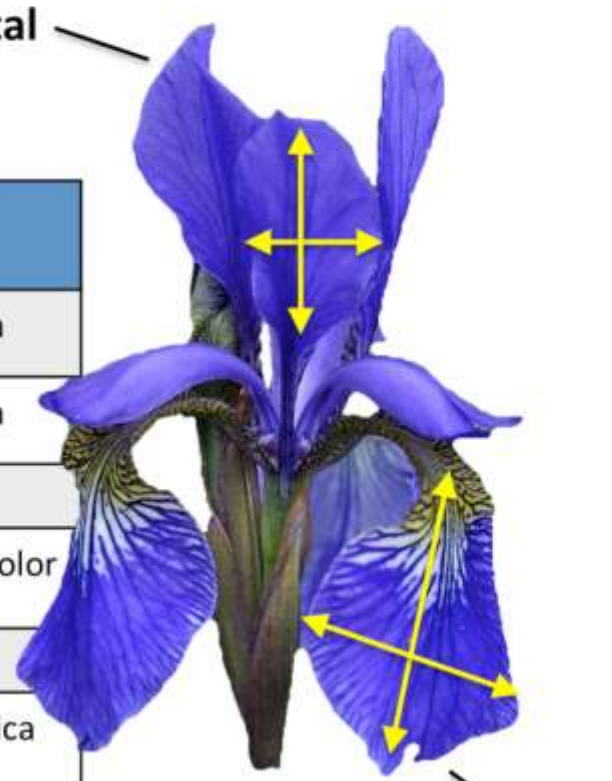
Collected by Ronald Fisher in 1936

문제 정의

어떤 모델을 만들 것인가?

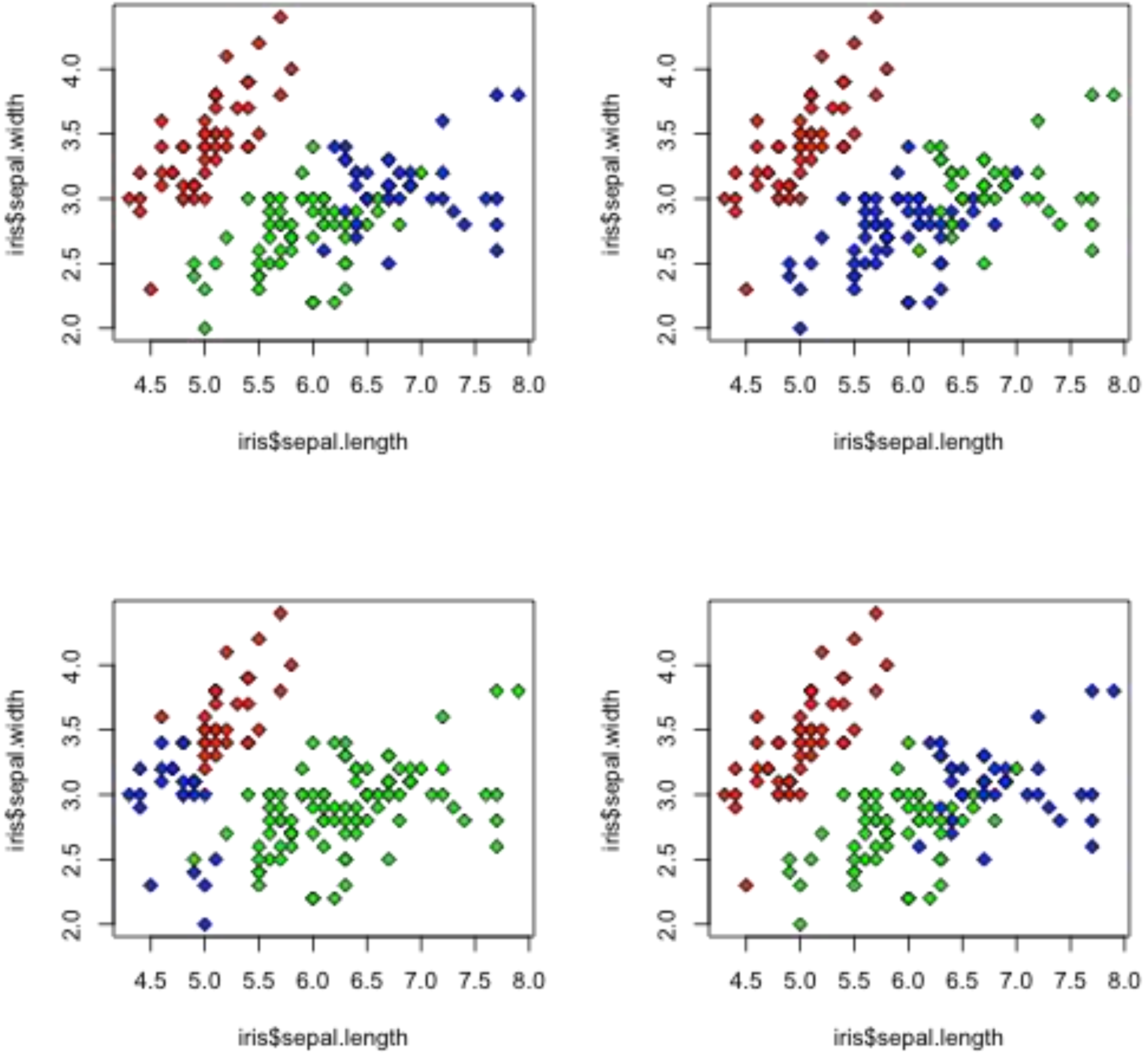
Samples
(instances, observations)

	Sepal length	Sepal width	Petal length	Petal width	Class label
1	5.1	3.5	1.4	0.2	Setosa
2	4.9	3.0	1.4	0.2	Setosa
			...		
50	6.4	3.5	4.5	1.2	Versicolor
			...		
150	5.9	3.0	5.0	1.8	Virginica



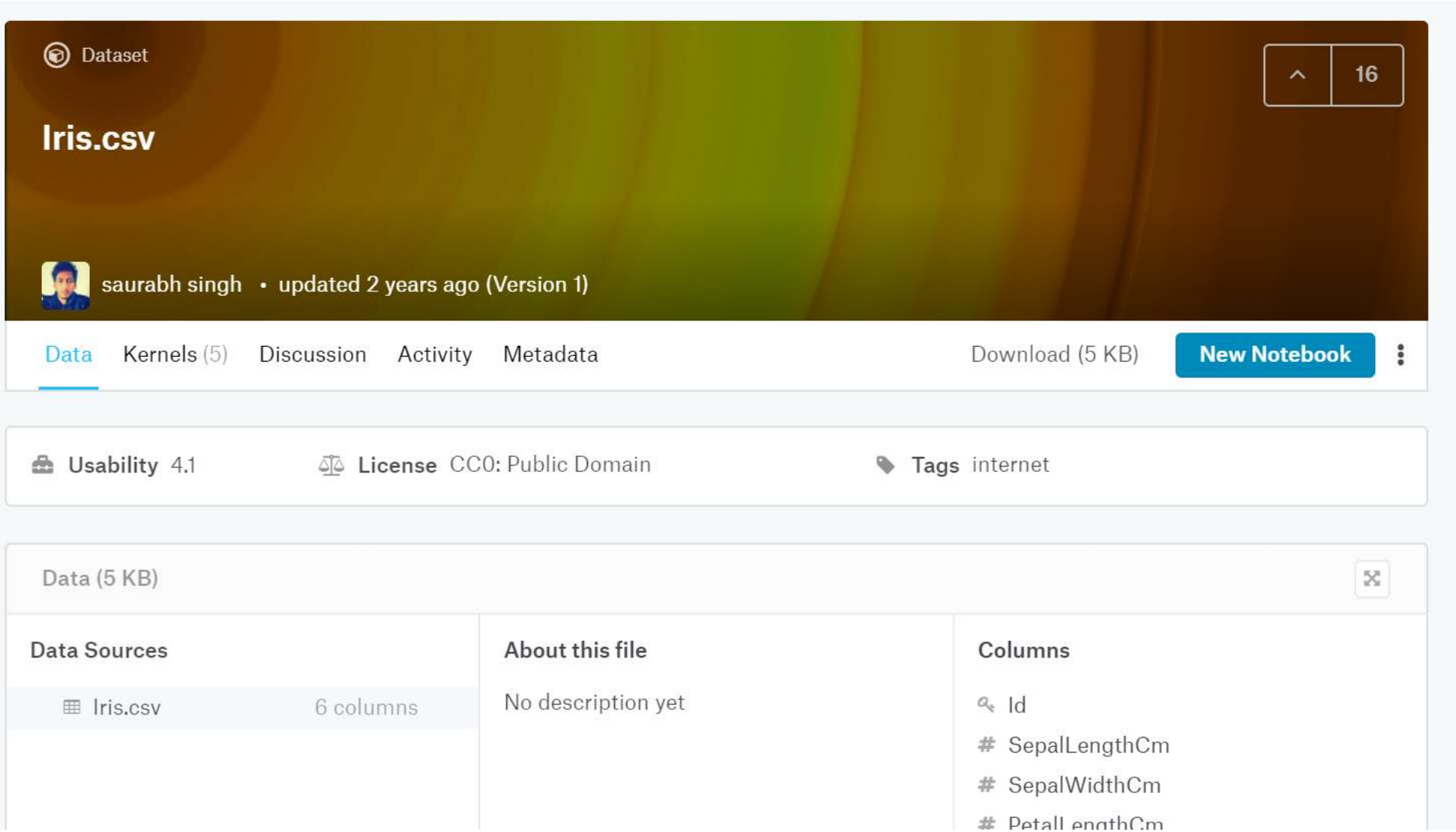
Features
(attributes, measurements, dimensions)

Class labels
(targets)



iris$sepal.width
iris$sepal.length
iris$sepal.width
iris$sepal.length
iris$sepal.width
iris$sepal.length
iris$sepal.width
iris$sepal.length

https://www.kaggle.com/saurabh00007/iriscsv



Microsoft Azure Machine Learning: Algorithm Cheat Sheet

This cheat sheet helps you choose the best Azure Machine Learning algorithm for your predictive analytics solution. Your decision is driven by both the nature of your data and the question you're trying to answer.

START

Finding unusual data points

Discovering structure

Three or more

Predicting categories

Predicting values

Two

ANOMALY DETECTION

- One-class SVM — >100 features, aggressive boundary
- PCA-based anomaly detection — Fast training

CLUSTERING

- K-means

MULTICLASS CLASSIFICATION

- Fast training, linear model — Multiclass logistic regression
- Accuracy, long training times — Multiclass neural network
- Accuracy, fast training — Multiclass decision forest
- Accuracy, small memory footprint — Multiclass decision jungle
- Depends on the two-class classifier, see notes below — One-v-all multiclass

REGRESSION

- Ordinal regression — Data in rank ordered categories
- Poisson regression — Predicting event counts
- Fast forest quantile regression — Predicting a distribution
- Linear regression — Fast training, linear model
- Bayesian linear regression — Linear model, small data sets
- Neural network regression — Accuracy, long training time
- Decision forest regression — Accuracy, fast training

TWO-CLASS CLASSIFICATION

- Two-class SVM — >100 features, linear model
- Two-class averaged perceptron — Fast training, linear model
- Two-class logistic regression — Fast training, linear model
- Accuracy, fast training — Two-class decision forest
- Accuracy, fast training — Two-class boosted decision tree
- Accuracy, small memory footprint — Two-class decision jungle
- >100 features — Two-class locally deep SVM

실습1:

Iris Machine Learning

https://docs.microsoft.com/ko-kr/azure/machine-learning/studio/algorithm-choice

“All models are wrong

but some are useful”

- George Box

감사합니다

Thank you~!