



# Acumos AI

## Cancer Classification Model

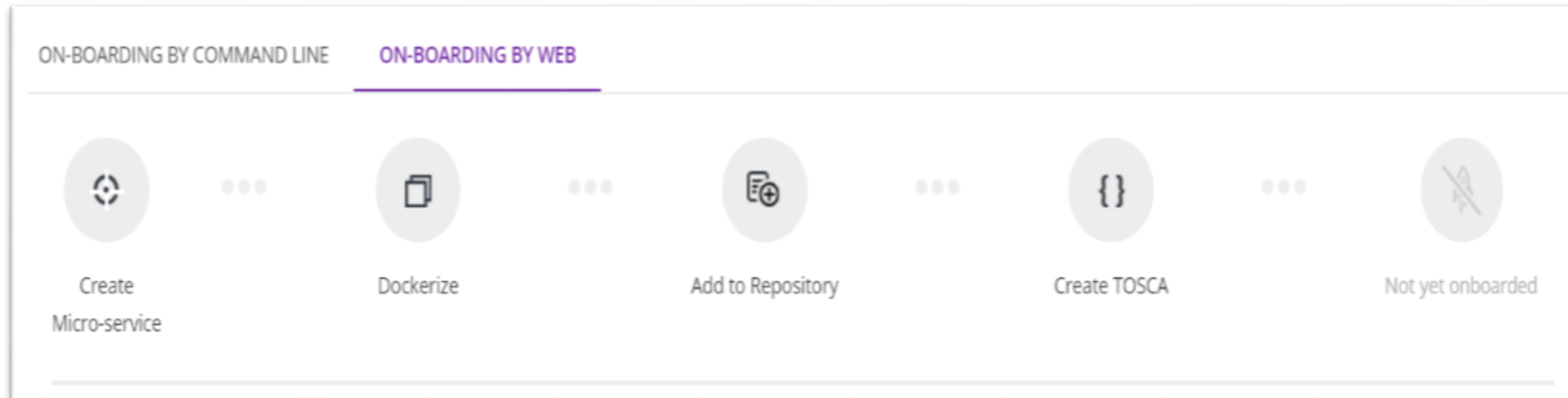
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# Cancer Classification Data

- Used the Breast Cancer Wisconsin Diagnostic Dataset from the UCI Machine Learning Repository to predict Malignant or Benign cancer.
- The features are characteristics of cell nuclei computed after fine needle aspiration (FNA)
- Ten real-valued features are computed for each cell nucleus:
  - radius (mean of distances from center to points on the perimeter)
  - texture (standard deviation of gray-scale values)
  - perimeter
  - area
  - smoothness (local variation in radius lengths)
  - compactness
  - concavity (severity of concave portions of the contour)
  - concave points (number of concave portions of the contour)
  - symmetry
  - fractal dimension

# Classification model

- Data Normalization & Feature Scaling
- On-Boarding the model



- Machine learning models used for cancer classification: Random Forest Classifier & Logistic Regression

<https://pypi.org/project/acumos/#exporting-models>

- Accuracy of the model
- Testing the model & uses of the model

# Future Scope

- Using image classification on digitized images of nuclei after the fine needle aspiration (FNA) procedure <https://docs.acumos.org/en/latest/submodules/image-classification/docs/image-classification.html>
- Similarly, the Acumos platform can be used to create models to diagnose or classify diseases from X-rays, CT scan and MRI images
- Increasing accuracy of the model using various machine learning models and collaboration amongst healthcare and technical professionals
- Similar datasets and applications