

**Breast Cancer Prediction**

Faculty of Computers & Artificial Intelligence

Selected 1

Repository Link: <https://github.com/mahmoudhaney/BreastCancerPrediction>

**Team 15**

|  |  |  |  |  |
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**Dataset Information**

Name

**Breast Cancer Prediction**

Classes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| id | diagnosis | radius\_mean | texture\_mean | perimeter\_mean | area\_mean | smoothness\_mean |

|  |  |  |  |
| --- | --- | --- | --- |
| compactness\_mean | concavity\_mean | concave\_points\_mean | symmetry\_mean |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| fractal\_dimension\_mean | radius\_se | texture\_se | perimeter\_se | area\_se | smoothness\_se |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| compactness\_se | concavity\_se | concave\_points\_se | symmetry\_se | fractal\_dimension\_se |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| radius\_worst | texture\_worst | perimeter\_worst | area\_worst | smoothness\_worst |

|  |  |  |
| --- | --- | --- |
| compactness\_worst | concavity\_worst | concave\_points\_worst |

|  |  |
| --- | --- |
| symmetry\_worst | fractal\_dimension\_worst |

**Total Dataset Columns 32 Columns**

**Total Dataset Rows 570 Rows**

**Training Data 426**

**Validation Data 143**

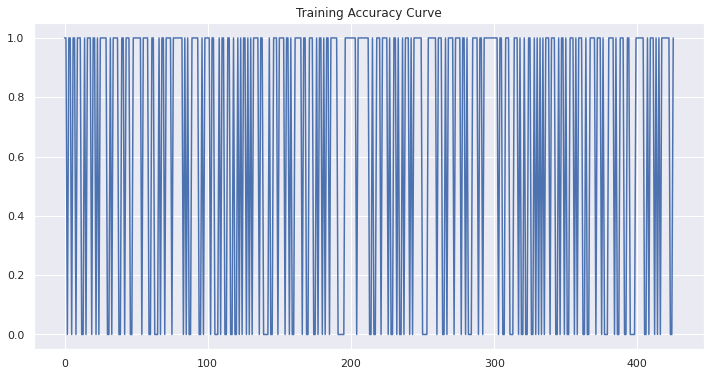
**Logistic Regression & SVM**

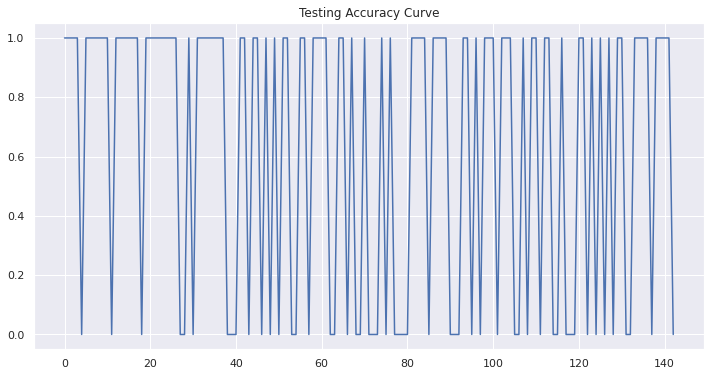
Confusion Matrix

A picture containing graphical user interface

Description automatically generated

Accuracy Curve





ROC Curve

Chart, histogram

Description automatically generatedChart, histogram

Description automatically generated

Chart, scatter chart

Description automatically generated

**ANN Model**

Confusion Matrix

A picture containing treemap chart

Description automatically generated

Accuracy Curve

A picture containing text

Description automatically generated

Loss Curve

Chart

Description automatically generated

A picture containing graphical user interface

Description automatically generated

ROC Curve

Graphical user interface, text

Description automatically generated

**Hyperparameters**

**SVM & Logistic Regression Models**

Before

**Model Accuracy: 94%**

Without Standardization

Training Data: 60%

After

**Model Accuracy: 97%**

With Standardization (-1, 1)

Training Data: 75%