



Machine learning system
that predict whether a person
has breast cancer or not



HOPE

Breast cancer
Prediction Program

Group 09

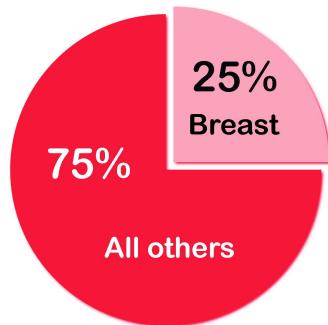
Project Proposal

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Objective

building a machine learning system that can predict whether a person has breast cancer or not using a support vector machine model.

New Cancer Cases (2020)



@Canadian Cancer Society

Breast cancer accounts for 25% of all cancer cases. Early diagnosis significantly increases the chances of survival.

Machine learning techniques can dramatically improve the level of diagnosis in breast cancer.

Data Collection & Analysis

Quantitative attributes:

Age (years)

BMI (kg/m²)

Glucose (mg/dL)

HOMA

Leptin (ng/mL)

Adiponectin (μg/m)

Resistin (ng/mL)

MCP-1 (pg/dL)

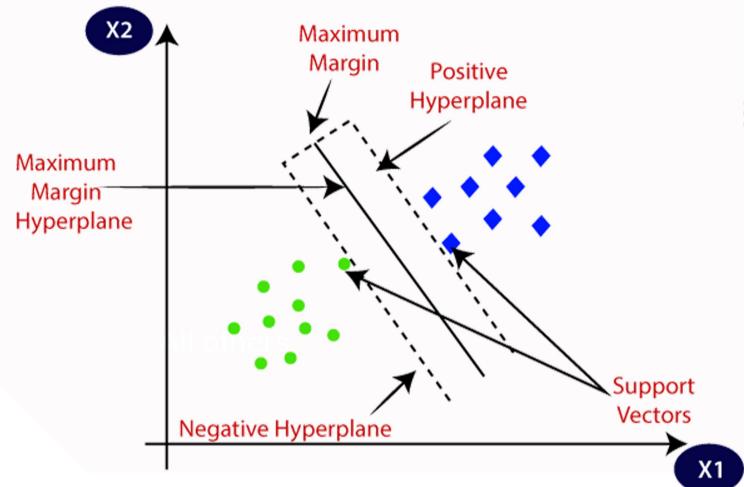
Labels :

Healthy

Patient

SVM model

Support vector machine (SVM) is a supervised machine learning method capable of deciphering subtle patterns in noisy and complex datasets



Supervised - input and desired output data are available
Classification - Output variable is a category (p or h)
SVM - Decision boundary minimize generalization error

Split, Train and Tune:

Split data - 80% for training. 20% for testing.
Train support vector machine model with training dataset

Outcome:

Make an accurate prediction using the trained model.