



# **Machine Learning**

## **Project Proposal**

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### **Problem Definition:**

Develop a machine learning model to classify breast cancer tumors as either benign or malignant based on features extracted from diagnostic images and patient data.

### **Motivation:**

Applying machine learning in the medical field could be very helpful, because we may save a lot of souls, if we could detect the malignant cells early.

Moreover, it is a good chance to apply all what we have learned in the course on a real classification problem.

### **Dataset:**

The dataset contains a collection of features computed from digitized images of fine needle aspirate (FNA) of breast mass and patient data. Each instance in the dataset represents a breast tumor and is labeled as either benign or malignant.

### **Evaluation Metrics:**

- Precision
- Recall
- Omission errors
- Commission errors
- F1 Score
- Accuracy

### **Dataset Link:**

[Breast Cancer DataSet](#)

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