# Machine Learning Canvas

Product: Authors:

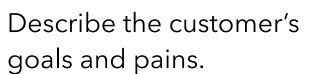
MLOps Project Group 2

Date:

Version:

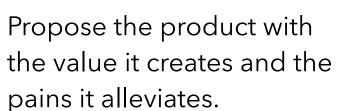
06.01.2024

# Background



It requires a lot of expert knowledge for medical experts to detect brest cancer in images. Therefore, a ML model supporting in this task would be beneficial.

# Value proposition



- more efficient and easier workflow to detect breast cancer
- better breast cancer detection accuracy

## Solution

Define the solution, including features, integration, constraints and what's out-of-scope

see project description on github (may be updated later here)

### Data

Identify the training and production data sources, as well as the labeling process and decisions.

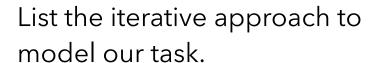
Data obtained from:

https://www.kaggle.com/datasets/whats2000/ breast-cancer-semantic-segmentation-bcss/data

Properties of the data:

- 224x224 colour images
- labelled with 3 classes
- 30.760 training images
- 5.429 validation images
- 4.021 test images

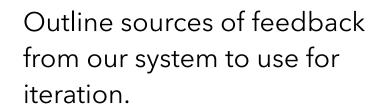
# Modeling



Semantic segmentation of images highlighting breast cancerous regions.

Exact procedure will be developed later in the project.

## Feedback



Not applicable at the moment.

# Project



Define the required team members, deliverables and projected timelines.

### Team members:

- 4 DTU masters students

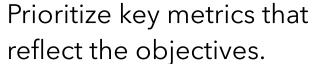
### **Deliverables:**

- Project repository incorporating all the great technologies shown in DTUs MLOps course, a framework chosen by the group and a chosen
- Additionally a project report will have to be included in the Github repository.

### **Deadlines:**

- Submission of the Github Link: 06.01.2024
- Finalization of Project: 18.01.2024

# **Metrics**



We strive to use the dice loss as evaluation metric

# 

# Feasibility

Discuss the feasibility of the solution and if we have the required resources.

The task should be feasible as enough data is available (public dataset on Kaggle).

The task has been performed before, so that we think it is technically feasible.

## **Evaluation**

Design offline and online evaluation criteria.

Main priority is the projects metric.

In later steps the runtime may also be important.

Decide whether we want to

do batch (offline) or real-

time (online) inference.

Inference

May be updated later in the project.

We strive to do online real-time inference.

**Objectives** 

Breakdown the product into key objectives that need to be delivered.

- Segmentation ML model
- MLOps Pipeline
- Accesible Deployment



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