

Machine Learning Canvas

Product:











MLOps Project Group 2

Authors:

Date:

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Version:

<div><h3>Background</h3><p>Describe the customer's goals and pains.</p><p>It requires a lot of expert knowledge for medical experts to detect breast cancer in images. Therefore, a ML model supporting in this task would be beneficial.</p></div>	<div><h3>Solution</h3><p>Define the solution, including features, integration, constraints and what's out-of-scope</p><p>see project description on github (may be updated later here)</p></div>	<div><h3>Data</h3><p>Identify the training and production data sources, as well as the labeling process and decisions.</p><p>Data obtained from: https://www.kaggle.com/datasets/whats2000/breast-cancer-semantic-segmentation-bcss/data</p><p>Properties of the data:</p><ul style="list-style-type: none">- 224x224 colour images- labelled with 3 classes- 30.760 training images- 5.429 validation images- 4.021 test images</div>	<div><h3>Modeling</h3><p>List the iterative approach to model our task.</p><p>Semantic segmentation of images highlighting breast cancerous regions.</p><p>Exact procedure will be developed later in the project.</p></div>	<div><h3>Feedback</h3><p>Outline sources of feedback from our system to use for iteration.</p><p>Not applicable at the moment.</p></div>
<div><h3>Value proposition</h3><p>Propose the product with the value it creates and the pains it alleviates.</p><ul style="list-style-type: none">- more efficient and easier workflow to detect breast cancer- better breast cancer detection accuracy</div>		<div><h3>Feasibility</h3><p>Discuss the feasibility of the solution and if we have the required resources.</p><p>The task should be feasible as enough data is available (public dataset on Kaggle).</p><p>The task has been performed before, so that we think it is technically feasible.</p></div>		<div><h3>Metrics</h3><p>Prioritize key metrics that reflect the objectives.</p><p>We strive to use the dice loss as evaluation metric</p></div>
<div><h3>Objectives</h3><p>Breakdown the product into key objectives that need to be delivered.</p><ul style="list-style-type: none">- Segmentation ML model- MLOps Pipeline- Accesible Deployment</div>	<div><h3>Evaluation</h3><p>Design offline and online evaluation criteria.</p><p>Main priority is the projects metric.</p><p>In later steps the runtime may also be important.</p></div>			

