**Use case and Derived software requirements**

*The main caretaker for this component is BLANK*

**Use Case**

Object detection is a computer vision technique that works to identify and locate objects within an image or video (Fritz Labs, n.d.). It has become a very popular use case of AI as it can be applied to a wide range of things from medical image analysis to identifying items in a busy street. We have created a use case that we think can be useful to others and will perform a deep exploration into how object detection is done with AI.

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| Use case | Object detection within images and videos |
| Description | Detect objects within an image using custom datasets. Loading an image into a program to be processed which identifies objects (such as furniture, pets, people, and vehicles) and exports a new image with the found objects and the details about the objects. |
| End users | Potential end users include Sign language (such as a translation tool and a teaching tool) and medical image analysis (such as X-Rays and speed up the examination process). Can be used for animal detection to identify animals and possibly give facts about them. Art image recognition to identify the artist of piece of art |
| Measures of Success (KPI) | Object to be detected in an image with greater than 90% accuracy |
| Issues | Can be slow to teach it new datasets. Doesn’t always pick everything up in the image. Cannot be 100% accurate. |

**Software Requirements**

The software requirements deduced from the use case include the detection of objects within an image from pre-trained model to test if the detection will work. Another requirement we have found is to train a new detection model on a new dataset to then give to the detection AI and test whether it will detect the new objects.

To run the program a python IDE is required unless compiled into an executable with a GUI, the IDE can be in an operating system or a web browser.

# References

Fritz Labs. (n.d.). *Object detection guide*. Retrieved from Fritz AI: https://www.fritz.ai/object-detection/