**Surround AI Squad 1**

**Examples Implementation Document**

After thorough discussion with tribe leader and squad meetings, collectively it has been decided that our squad will implement following two examples:

* Gender and Age Detection
* Sentimental Analysis

Both examples will be implemented in Python and then with the help of Django it will be attached with web-based platform “AI Literacy Tool”. The general idea is to teach Secondary high school students Artificial intelligence and machine learning through an interactive way.

When a student will login on AI Literacy tool, they can select one example at a time to play with. Once they choose, the example will come in front of them as blocks and they need to arrange the blocks in correct order. Each block will represent a specific function in python code. For example, if a student selects “testing” block before “training” block it is not possible as a machine learning algorithm needs to be trained first and then tests on testing data.

**Gender and Age Detection:**

User can either provide a static face image or can capture the image from real time front/web cam. The correct method to perform this example successfully user needs to put blocks in following order:

* Load dataset
* Feature extraction of each image
* Train the data on features (facial coordinates) of extracted images
* User can also modify minimum probability threshold in order to understand how filter works and where it provides most optimized results.
* After all this process, user will provide any static face image or capture their own image in real time to test accuracy of the program.

User needs to perform all these steps in order otherwise program will produce a hint and ask user to try the order again.

**Sentimental Analysis**

This example also represents an application of machine learning. It can be used to identify positive and negative words/opinion in a given sentence. This example is related to Natural language processing. A dataset/corpus will be provided to the user to load and train the algorithm. Then the algorithm will get itself trained on positive, negative and neutral words. Once the process is done than user will be prompted to write anything in English language as testing input. Once the user provides the testing input the positive/negative words will be prompted for the user as an output of the program.