**1 – Introduction**

Introducing the problem, motivations and objectives of the present work.

**1.1 – Problems**

Problems normally associated with visual human detection.

 **1.2 – State of the Art**

 Brief explanation of some methods already developed for human detection, possibly referring to any real application that might already be implemented (not sure if any). Also a brief overview of the evolution of visual object detection algorithms in general.

 **1.3 – Solution**

 State my approach to solve the problem and why it was chosen, rather than any other.

**2 – Experimental setup**

Detailed explanation of the experimental platform implemented in ROS for the development of the present work. Also stating and explaining the main software tools used for elaborating the code (openCV). Possibly bring out that this application is to be implemented in the ATLAScar thus ilustrating the setup in run-time. This chapter will probably be divided in sub-topics.

**3 – Integral Channel Features**

 A compact explanation of the algorithm.

**3.1 – Channels**

What is a channel of an image, which were computed and how

**3.2 – Integral Images**

What an integral image is, what they are for, how they are computed, why they are useful for this work.

**3.3 – Features**

What is a feature, how they are computed, how many and why. Ilustration of the random mechanism constructed for obtaining random parameters for feature harvesting.

**3.4 – “The whole picture” (not sure of the name yet, but seems to me an important sub-topic)**

An explanation of the architecture of the code, meaning, how the image is being treated, probably a fluxogram of some sort will come in handy.

**4 – Machine Learning Method**

Brief explanation of what a ML method is, why it is absolutely necessary for these detection problems.

**4.1 – Adaboost**

What is adaboost, why is it ideal for the present work

**4.2 – Training a classifier**

Explain all the steps necessary for successfully training a classifier.

**5 – Experiments and Results**

Explain how the results were acquired, and what makes this method a valid confirmation of the results.

**5.1 – Results**

Show results.

**6 – Conclusions and Future Work**

The title explains it self.