1 Research Goal

Our primary goal with the literature research is to find sources of information which complements our expertise.

While writing our proposal we identified five aspects where we lack sufficient expertise. These are in particular:

Statistical experimental design As outlined in the research proposal we are going to develop our ideas in a simulation. Therefore it is efficient to design the experimental part in advance. This means that we are not going to use a trial-and-error approach but instead invest some time to think about possible outcomes and how to achieve these by altering different parameters in particular and develop a deeper understanding of their behavior.

Gradient descent algorithms Since there exist a huge number of different numerical and analytical ways to solve a gradient descent problem it will save time to evaluate the best suitable algorithm prior to implementation to avoid unnecessary work.

This is only for testing the citation format and will be removed later: Gradient descent overview (Ruder, 2016) is very useful.

Efficient implementation of algorithms This is especially important since our algorithm is supposed to work in realtime. Therefore any delay induced by unefficient code is unacceptable.

openCV best practices The analysis of the original footage is made by openCV. Since this library offers a wide variety of different approaches to isolate objecs in videofootage, it is evaluate the best option.

Measure and comparison of quantifiable data The results in our research will be mainly represented by numbers. To create a better understanding of these numbers and how they interact it is a good approach to evaluate different methods of putting numbers in context to one another and which scales and graphs are the quasi standard across the research community.

2 Source of Information

For the research regarding *efficient implementation of algorithms and openCV best practices* it is the best option to look for recent papers since these topics are currently subjects where a certain number of people are working on. Therefore the following archives offer a good starting point to search for up-to-date papers:

1. IEEE online database
2. arXiv.org
3. ACM Digital Library
4. Google Scholar

The Topics *statistical experimental design and measure and comparison of quantifiable data* are already established in the scientific community. Therefore it is the best approach to consult the latest literature in these particular fields. In our case this can be done to a certain extent with the HIBS database and online services or with actual books in the library.

The efficient implementation of algorithms is less of a scientific problem but of a code-optimization. Hence reading blogs of skilled programmers or threads on *Stackoverflow* seems as the most reasonable approach.

3 Criteria for eligible sources

some lorem text

4 Sources for our research

4.1 Topic A

happy little lorem

4.2 Topic B

happy little lorem

4.3 Aonther Lorem Topic

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By the way...somehwere around here are the references to the literature.bib file.

References

S. Ruder. An overview of gradient descent optimization algorithms. *arXiv preprint arXiv:1609.04747*, 2016.