# Tech Review

## Key Information

### Title

On the Optimal Placement of Multiple Visual Sensors

### Citation

(Lienhart, 2006)

## Summary

This source focuses on an applicable solution to real world camera placement problems. It does a small amount of its own research, basing most of constraints on previous works. As such, it focuses almost exclusively on an effective implementation, and in contrast to similar papers like that, it also describes the implementation in detail.

The paper evaluates several algorithms:

* Linear Programming (Perfect Solution)
* Greedy Search (Approximation)
* Dual Sampling (Approximation)
* Divide and Conquer
* Random

## Critical Evaluation

Whilst the fact that almost no background research has been done regarding the problem would have been worrying in any other field, it’s not as much of an issue when considering Optimal Camera Placement Problem. The theoretical side of this problem has been research to great extent in other papers, therefore this algorithm evaluation had plenty of reliable sources to base its results on.

The benefit of the paper is that it gives a clear indication of its constraints as well as the implementation. All parameters can be tweaked by the user, including ones like possible camera positions or shape of the area. These options are absent from similar practical applications.

The paper also supports an idea of multiple cameras as well as different areas of importance. The evaluation seems to be detailed and the paper justifies choices for not evaluating high camera/complexity structures (The Perfect Solution Algorithm was too computationally expensive to conduct analysis in a reasonable time frame).

The number of details given regarding implementation would help when creating a comparison tool, especially as similar papers tend to omit the exact implementation, instead skipping right to results.

## Conclusion

In conclusion, this paper would be a good addition to the Tech Survey regarding the Optimal Camera Placement Problem as it appears to have no visible drawbacks. Whilst no useful as a source for background research, this paper would be crucial in later stages of the project when developing a prototype (And later a fully functioning project).