# Article information:

基于机器视觉的水下动态鱼体尺寸测量方法研究与实现--《浙江大学》2021年硕士论文  
<https://cdmd.cnki.com.cn/Article/CDMD-10335-1021113391.htm>

# Article summary:

1. Analyzed the effect of light refraction on underwater camera models and proposed an improved underwater stereo calibration method that takes into account the relative pose between two cameras.

2. Proposed a 3D rotating ellipsoid fitting method for measuring the size of multiple swimming fish in images, which is accurate and applicable to aquatic breeding environments.

3. Developed an underwater dynamic fish size measurement system that uses a Raspberry Pi to pre-process video data and measure fish size with the proposed algorithm.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy, as it provides detailed information about the research conducted and results obtained. The authors have provided evidence for their claims by citing relevant literature, discussing experiments conducted, and providing results from those experiments. Furthermore, they have discussed potential risks associated with their proposed methods, such as potential errors in calibration due to light refraction or inaccurate measurements due to poor segmentation accuracy.

However, there are some areas where the article could be improved upon. For example, while the authors discuss potential risks associated with their methods, they do not provide any discussion of possible counterarguments or alternative approaches that could be used instead of their proposed methods. Additionally, while they cite relevant literature throughout the article, there is no discussion of how their work builds upon or differs from existing research in this area. Finally, while they discuss potential applications of their work in aquaculture management systems, there is no discussion of how these systems would be implemented or what benefits they would bring to aquaculture operations.

# Topics for further research:

* Aquaculture management systems
* Aquaculture operations benefits
* Alternative approaches to light refraction
* Segmentation accuracy improvement
* Building upon existing research
* Implementing aquaculture management systems

# Report location:

<https://www.fullpicture.app/item/a0478fcb9e252dab82fb7d554d1c34a9>