# Article information:

Data-driven distributed formation control of under-actuated unmanned surface vehicles with collision avoidance via model-based deep reinforcement learning - ScienceDirect  
<https://eproxy.lib.tsinghua.edu.cn/https/7myu6CroLAXMrp7uaqvXiuvMGPPiXeQ7HH6xJD9b0MhzQe/science/article/pii/S0029801822024490>

# Article summary:

1. This paper proposes a distributed formation control with collision avoidance for multiple under-actuated USVs.

2. A deep neural network is trained to approximate the dynamic model of each USV using input and output data.

3. Model predictive controllers are proposed to achieve safe formation control based on the learned vehicle dynamics.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article provides a comprehensive overview of the proposed distributed formation control with collision avoidance for multiple under-actuated unmanned surface vehicles (USVs). The authors present a fully data-driven distributed control approach for multiple USVs to achieve a desired formation based on model-based deep reinforcement learning. The article is well written and provides detailed information about the proposed method, as well as simulations results that demonstrate its feasibility and efficacy.

However, there are some potential biases in the article that should be noted. For example, the authors do not discuss any potential risks associated with their proposed method or explore any counterarguments to their claims. Additionally, they do not provide any evidence for their claims or present both sides of an argument equally. Furthermore, there is no mention of any promotional content in the article which could be seen as partiality towards their own research.

In conclusion, while this article provides an interesting overview of the proposed distributed formation control with collision avoidance for multiple under-actuated USVs, it does have some potential biases that should be taken into consideration when assessing its trustworthiness and reliability.

# Topics for further research:

* Potential risks associated with distributed formation control
* Counterarguments to distributed formation control
* Evidence for distributed formation control
* Promotional content in distributed formation control
* Risks of collision avoidance for USVs
* Counterarguments to collision avoidance for USVs

# Report location:

<https://www.fullpicture.app/item/7283481878b01826b935ac2f447d1a55>