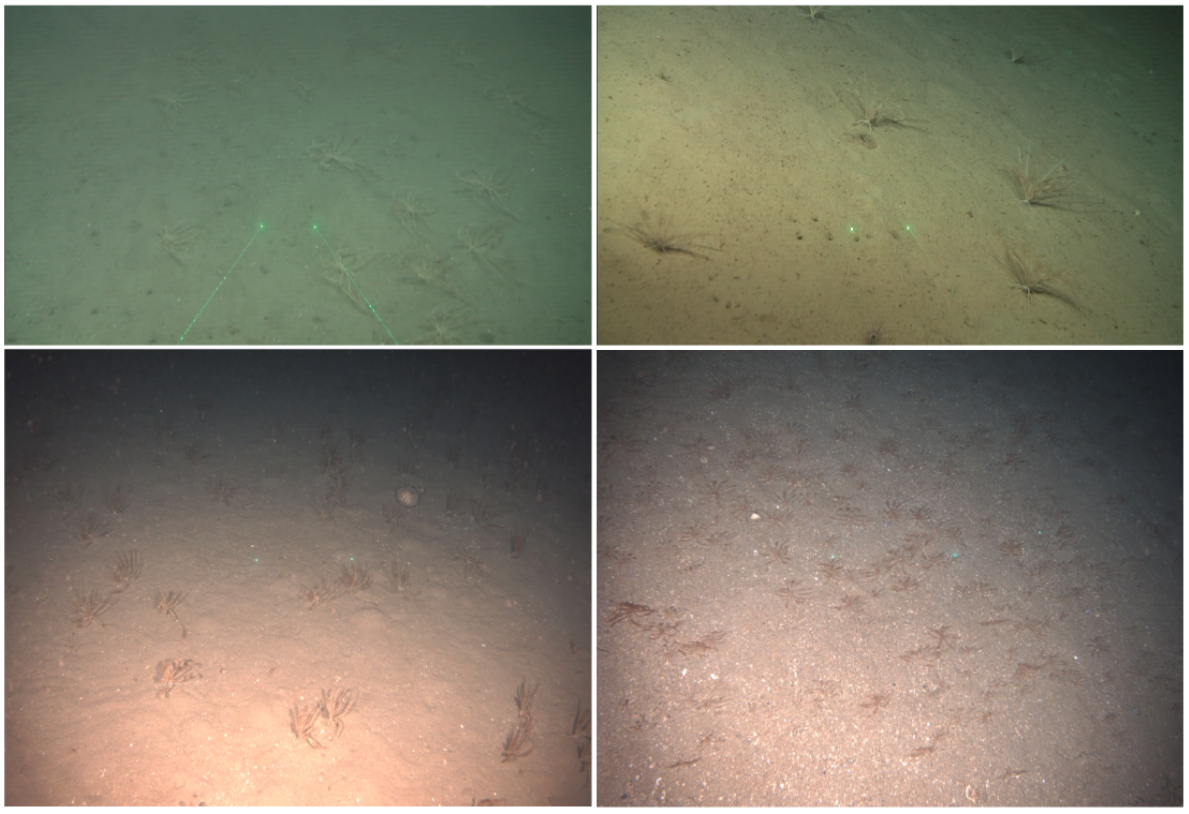
Title: Large scale crinoïdeus counting from ROV videos.

Abstract (400 characters): The exhaustive monitoring of marine species is crucial to estimate the effects of protection measures and policies. This TFM proposes to reduce manual annotation needs and to specifically provide DL tools to estimate the populations of crinoïdeus from large DBs recorded using ROV in the deep sea. We will explore recent CNN architectures and attention mechanisms to provide reliable counting.

Extended Abstract:

The exhaustive monitoring of marine species is crucial to estimate the effects of protection measures and policies (e.g. fishing banning or protected natural spaces). One of the best available tools to provide data-based evidence for assessing policies is the use of ROV/AUV, i.e. remotely operated vehicles that record humongous amounts of videos from the deep sea. Nevertheless, the manual labeling and counting of marine species from these videos becomes infeasible. This TFM proposes to specifically provide tools to estimate the populations of crinoïdeus. We will explore recent CNN architectures and attention mechanisms to provide reliable counting of populations of crinoïdeus, focusing specifically on: automation of the population estimation task, minimization of the needs of labeled samples, improve the accuracies by using large scale unlabelled data samples, and providing upper and lower bounds on the counting error.

If you are interested in the project, please feel free to contact us: dmasipr@uoc.edu.



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