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Machine learning for boulder detection in acoustic data

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Sublittoral hard substrates, for example formed by blocks and boulders, are hotspots for marine biodiversity, especially for benthic communities. Knowledge on boulder occurrence is also important for marine and coastal management, including offshore wind parks and safety of navigation. The occurrence of boulders have to be reported by member states to the European Union. Typically, boulders are located by acoustic surveys with multibeam echo sounders and side scan sonars. The manual interpretation of these data is subjective and time consuming. This presentation reports on recent work concerned with the detection of boulders in different acoustic datasets by convolutional neural networks, highlighting current approaches, challenges and future opportunities.