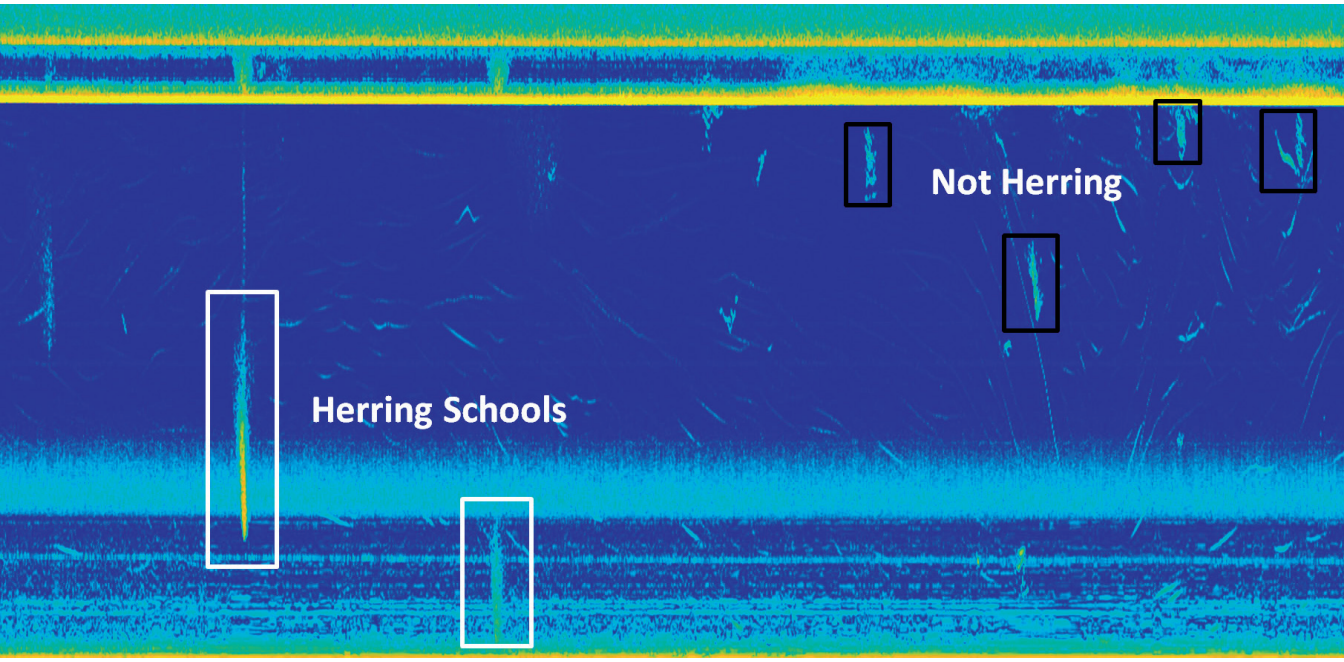

Machine Learning for Analyzing Data

ASL Environmental Sciences Inc. (ASL), University of Victoria, and the Department of Fisheries and Oceans (DFO) recently completed the first phase of a collaborative research initiative to develop automated analysis tools for data collected by ASL's multi-frequency echo sounder, the AZFP (acoustic zooplankton fish profiler).

The research project is led by Professor Alexandra Branzan Albu from the Electrical and Computer Engineering Department of the University of Victoria in collaboration with DFO and ASL experts. The AZFP data for this research, along with expertise in the areas of fisheries acoustics and echogram interpretation, were provided by Dr. Stéphane Gauthier of DFO.

The AZFP provides high temporal and spatial resolution acoustic backscatter. The team focuses on developing methods and systems to automatically classify backscatter from AZFP data. Typically, AZFP data analyses rely on manual interpretation and visualization methods. The systems developed during the project will automate techniques to remove background noise, select regions of interest, and classify them into relevant target classes, such as herring schools. Detection algorithms have been tested on 100 echograms to date containing 145 instances of schools of herring with expansion planned for other target classes, such as salmon and zooplankton. **www.aslenv.com**