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SeaDash: a semi-automatic tool for sound event detection and passive acoustic analysis

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- As blue economy is gaining momentum in the Norwegian Arctic, the GLIDER project (financed by the RCN DEMO 2000 and ConocoPhillips) deployed in 2018 an unmanned autonomous vehicle, Seaglider™ , equipped with a hydrophone to passively scan the marine soundscape of the Lofoten-Vesterålen (LoVe) area.

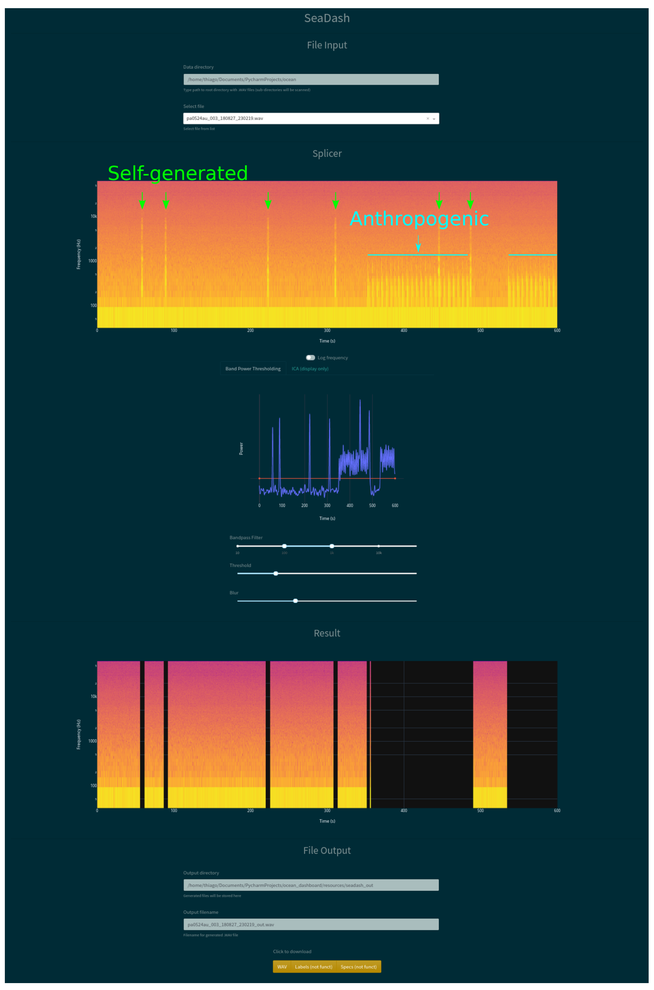
- The Seaglider™ produced terabytes of sound data, containing signals of natural and anthropogenic origin over a broad acoustic frequency range, and at various water depths.

- The volume and velocity of data generation call for automated analysis, and integrating this novel dataset into existing pipelines raises new preprocessing requirements. Specifically, noise produced by the glider's machinery, while minimal, can be captured by the hydrophone and saturate the recordings.

- To solve this problem, we developed Seadash, an interactive tool to detect and silence sound events.

SEADASH SIMPLIFIES DETECTION OF SOUND EVENTS

compact set of features + intuitive controllers



- Spectrogram visualization of self-generated (glider's machinery) and anthropogenic (exogenous) sound events

Example actionable feature:
POWER TRACE
- Power in selected frequency band (purple trace)
- Controller for frequency band selection
- Adjustable rejection threshold
- Adjustable temporal granularity

Output with silenced segments
- Real time validation by user
- Spectrogram visualization
- Download ready:
  - New sound file
  - Labels (eg. for Supervised ML)

SEADASH RUNS ON PYTHON

on the shoulder of giants

python™ SciPy scikit learn plotly Flask web development, one drop at a time

SEADASH IS A WEB APPLICATION

- Deploy it locally or in the cloud
- Access it through your browser
- Easily extensible with powerful Python ML libraries
- Tool in active development

try it free at
https://seadash.app

your use case is highly valued!