Active Detection from Adaptive Representation of High Resolution Images

Build Fast and Efficient Data Set for Automatic Environmental Assessment

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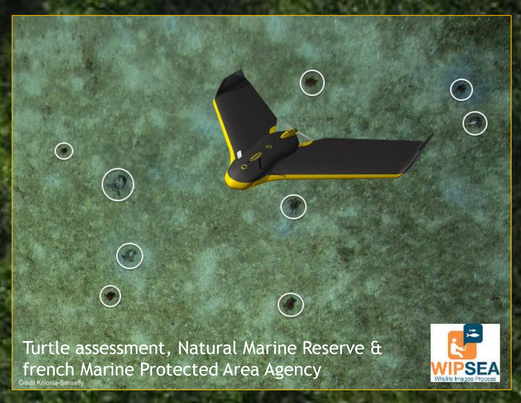
Active Learning, Semi-supervised Learning, Human in the Loop, Environmental Application, Computer Vision

Research Context

Nowadays, photo interpretation for environmental assessment is widely used but time-consuming.

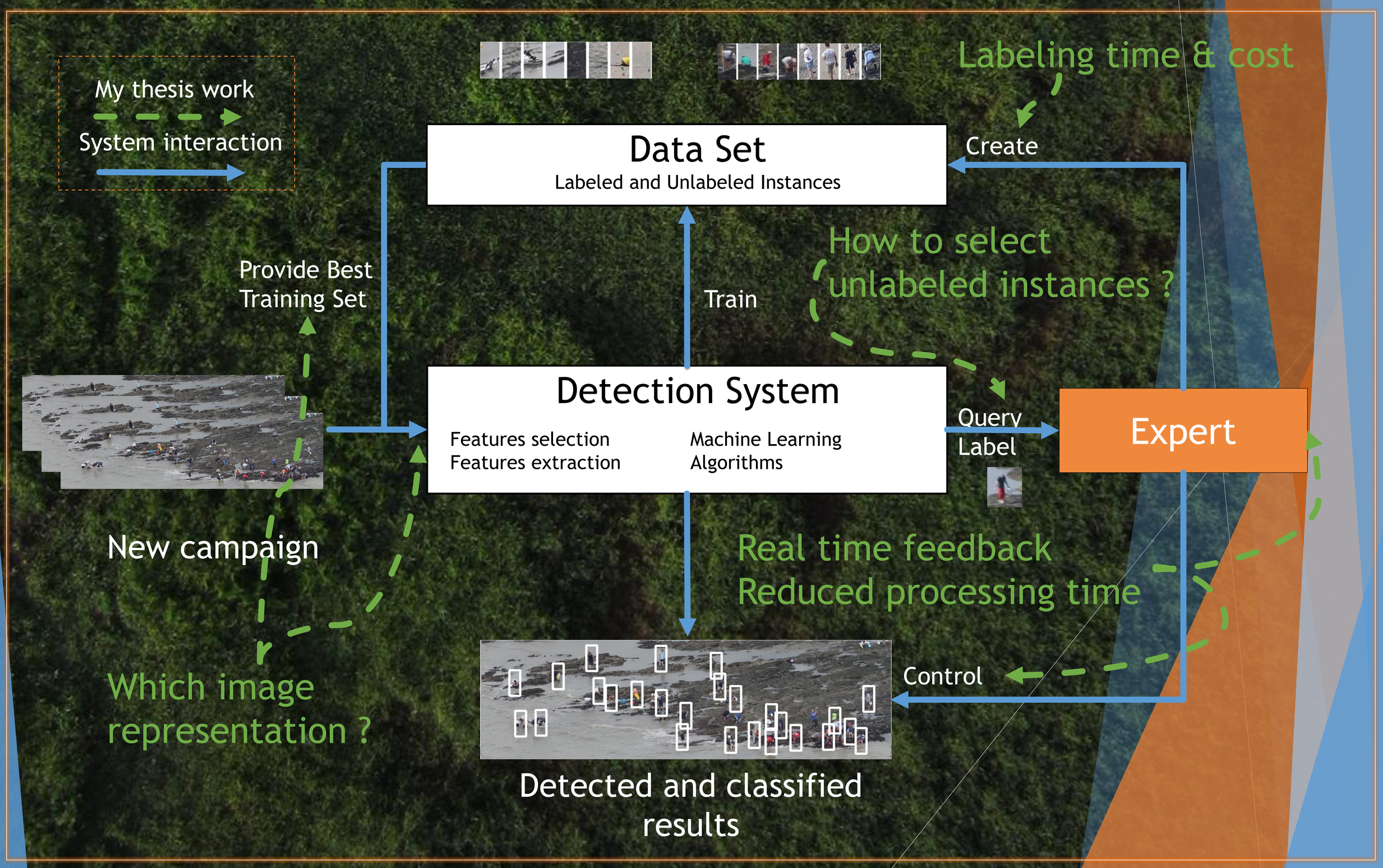
- **Automation of object detection** is needed, but classical machine learning approaches show their limits.
- Creating a **fully labeled dataset** is also **time-consuming** and very dependent on topics.

Needs :
- **Fast**, **efficient** and **robust** data set
- Take into account the possibly **fast changes** between two assessment campaigns
- **Adapt** to each species
- Use the **expert feedback**



Within WIPSEA & IRISA partnership,
two complex aerial image data sets are collected periodically.
From 250 turtles to 1000 humans to detect,
from 150 to 1000+ pictures each flight.

Framework and Problematics



WIPSEA Wildlife Images Process

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