

## PROBLEM:

- Build RTs/SIT Models, that are adaptive/online.

- ↳ fast adaptive tree
- fast auto-encoders

How to learn online learning  
Albert Befelt

Moal (Wiki)

scikit-learn  
multiflow

## Streaming Data Properties.

- continuous & temp. ordered
- potentially infinite
- can't scan multiple times
- fast arrival - and -abrupt.

- ↳ concept
- ↳ features

- use approx. not exact.

## Multi-Class Imbalance Stream

- Noise & anomalies
- mult. classes > 2. often OVB, OVA
- extreme skewed data/feat
- overlapping classes
- within-class imbalance

## Questions

- I. Combine undersampling/over sampling <sup>without</sup> multiple binary sets.

## Methods

### SCUT-DS: Window based method

- ↳ Majority classes: cluster-based undersampling - to address class imbalance
- ↳ measuring minority recalls (recognition rates)
- frequent evaluation.
- sampling helps learning

feature / concept drift.