

# Incremental and Budget-Constrained Deep Learning

Br.A.In.

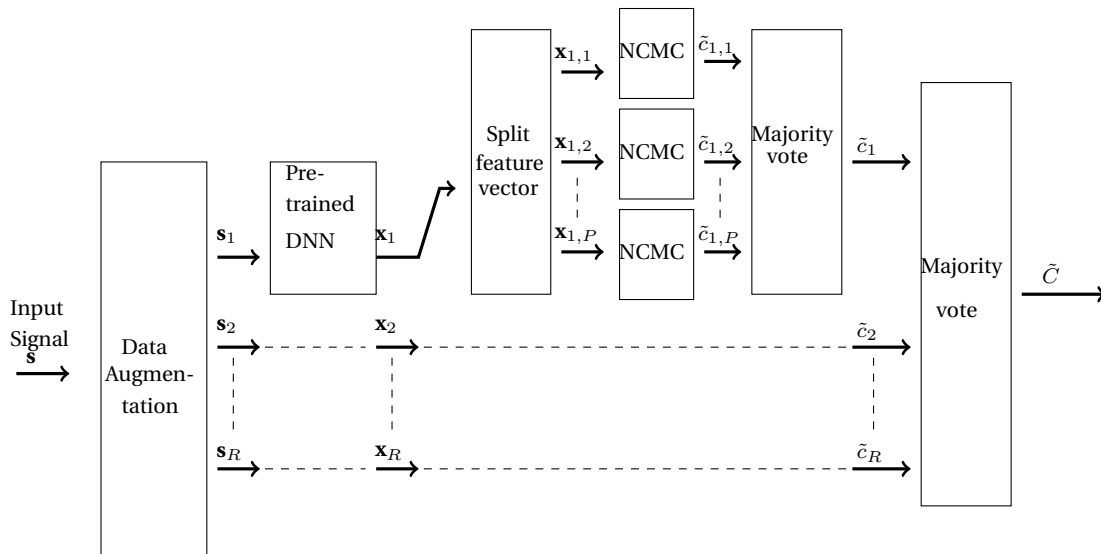
## 1 Overview

Being able to learn new examples or new categories on the fly is a key question in many application domains. Since Deep Learning relies heavily on stochastic gradient descent, it is subject to catastrophic forgetting. For this reason, the Br.A.IN. team is working on methods that provides the following properties:

- An ability to learn new data providing additional information or new classes,
- An ability to reach a classification accuracy comparable to state-of-art nonincremental counterparts,
- An ability to preserve previous knowledge without needing to access previously seen data,
- Small computational power and memory footprints compared to existing counterparts.

The team is also interested in hardware implementations of these solutions.

**Keywords:** Deep Learning, Incremental Learning



## 2 Professors involved

- Vincent Gripon
- Nicolas Farrugia

## References

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