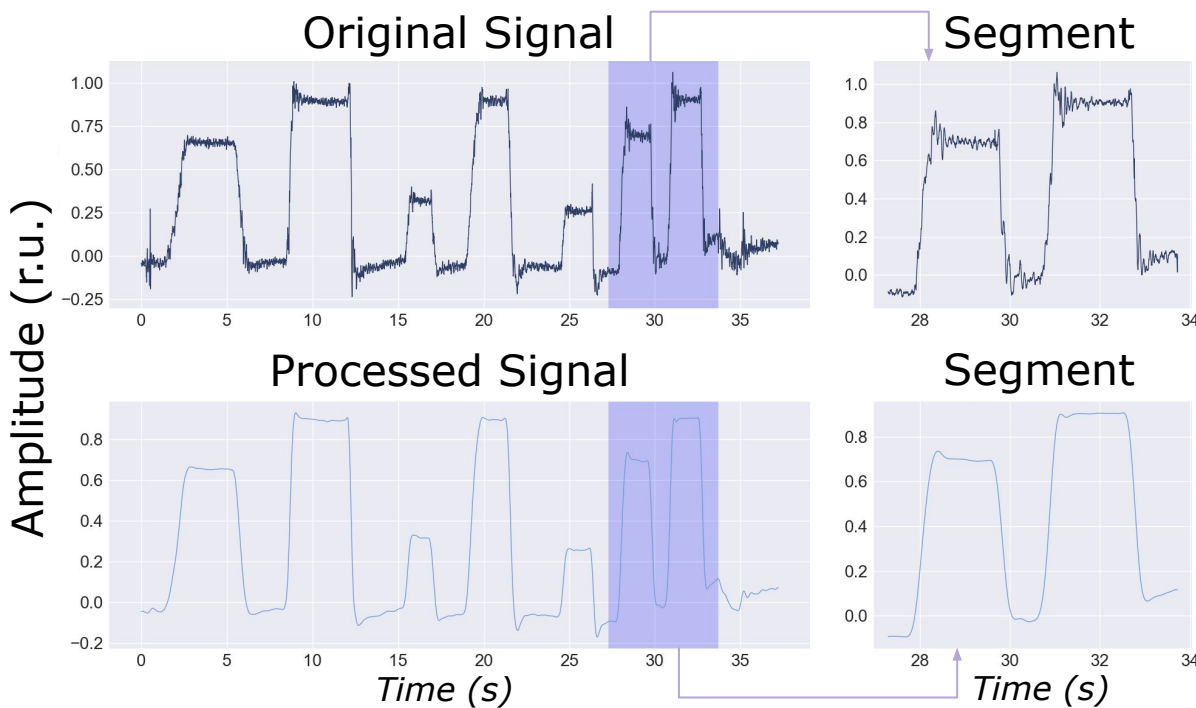


1

## Pre-Processing

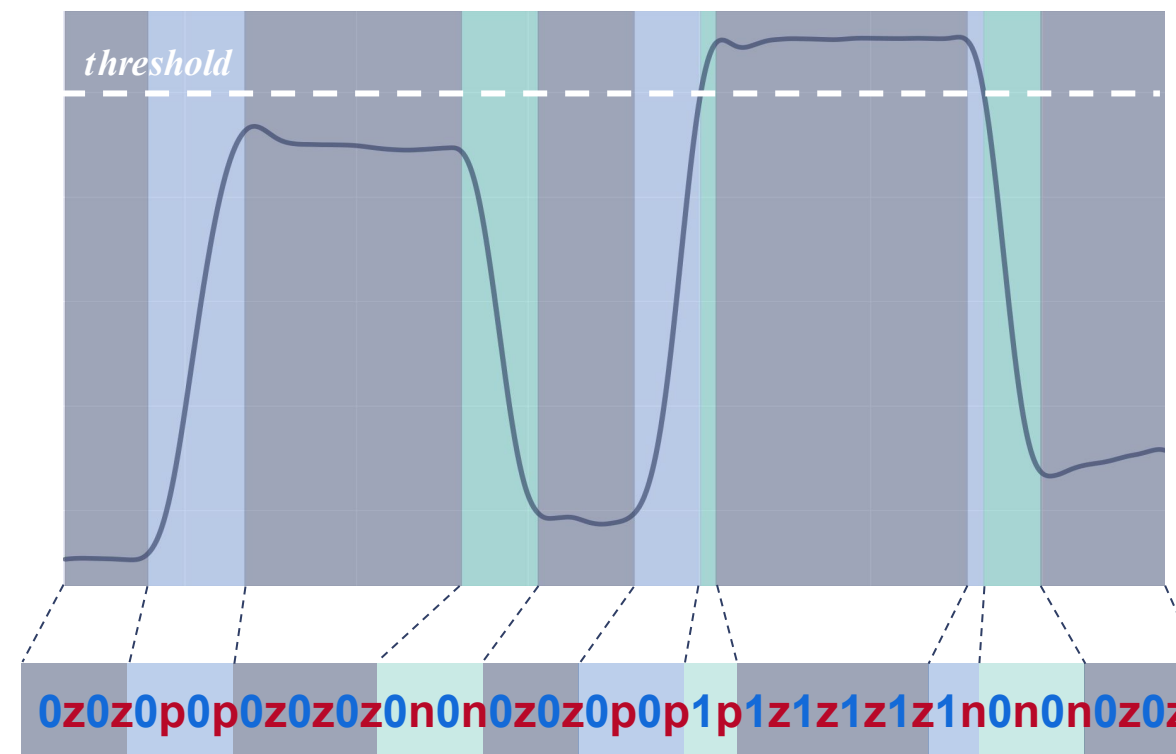
Sm 500



2

## Symbolic Connotation

A 0.8 D1 0.05



$A(s, thr)$  - Amplitude thresholding. Everything superior to the threshold is "1", while the rest is "0";

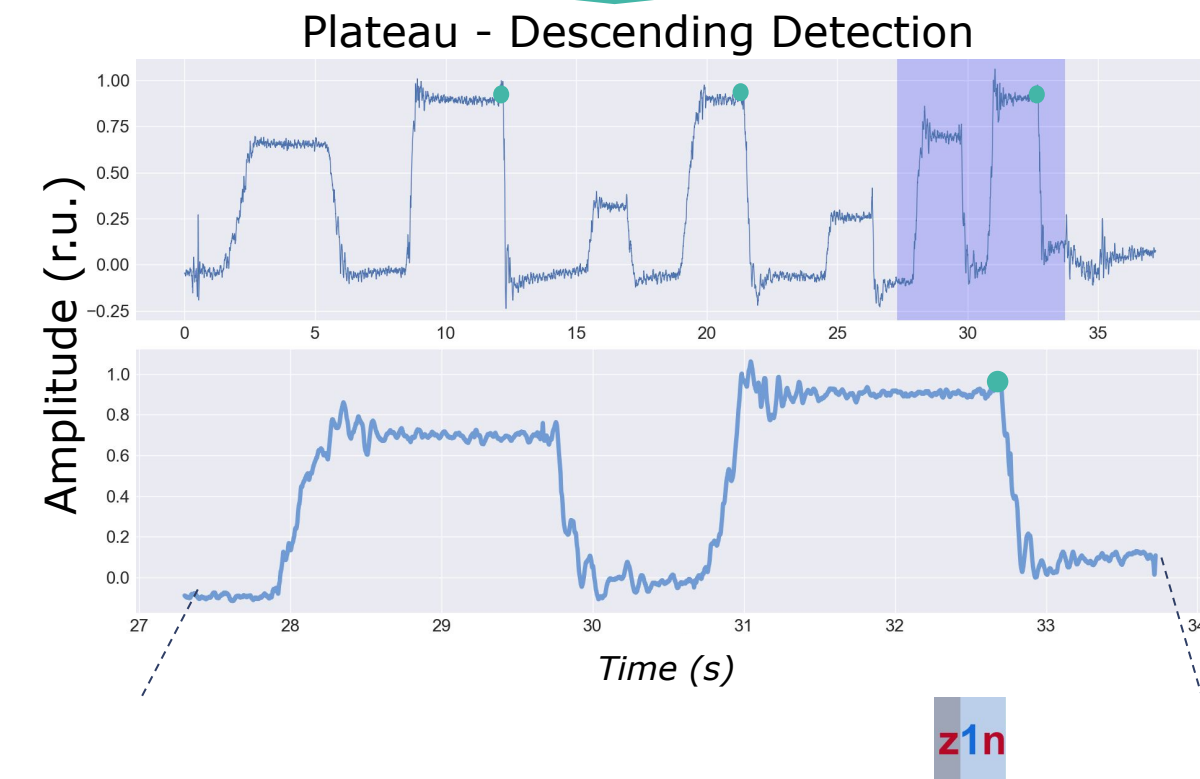
$D1(s, thr)$  - Derivative of the signal with a rounding threshold.

p - positive derivative, n - negative derivative and z - zero derivative

3

## Search

z1n



$(1.z)$  - Amplitude superior to threshold and derivative is null

$(1.n)$  - Amplitude superior to threshold and derivative is negative

$(z1n)$  - Flat portion with amplitude above the threshold starting to a negative derivative portion.

$Sm(s, win\_size)$  - Smoothing of s