1. Visualizing an audio signal in the time domain usually reveals very little information on its spectral content. Which graphical representation displays the amplitude changes for each frequency as a function of time? **1 / 1 punto**

- ○ Short-Time Fourier Transform.
- ○ librosa
- ○ Feature normalization
- ◉ Spectrogram.

Correcto
Spot on! Check this page for more information on spectrograms.

2. What would be a striking caveat or shortcoming of interpreting a video just as a series of images? **1 / 1 punto**

- ○ Unnecessarily increasing the dimensionality of the dataset.
- ◉ Losing the semantic context coming from the sequence of events.
- ○ Hindering classifier accuracy.
- ○ Considering that all subsequent frames are correlated.

Correcto
Correct! Videos are time series as well and thus the ordering of events matter a great deal.

3. In the analysis of the weather time series data set you saw that the samples were acquired at a rate of 6 samples per hour. You also know that weather changes typically occur on a much slower time scale. What is a valid sampling strategy to make predictions into the future for this specific case? **1 / 1 punto**

- ○ Omitting samples.
- ○ Upsampling by interpolation.
- ○ Use one sample at a time to make predictions.
- ◉ Windowing and omitting samples.

Correcto

Right on! Taking a finite window of data plus downsampling is the way to go for slow time varying signals.