## Alberto Andrés Valdés González.

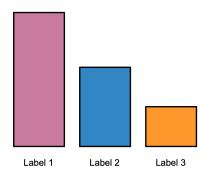
**Degree:** Mathematical Engineer. **Work position:** ML-Engineer.

Mail: anvaldes@uc.cl/alberto.valdes.gonzalez.96@gmail.com

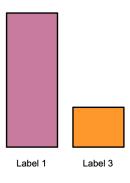
Location: Santiago, Chile.

## Oversampling

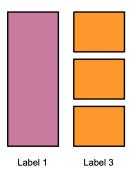
**Step 0:** We have imbalanced datasets.



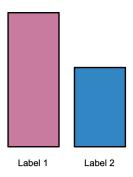
Step 1: We take the bigger dataset and we going to iterate with the other datasets.



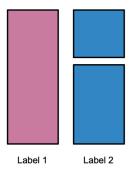
Step 2: Repeat and sample the smaller dataset till get the same size of the bigger dataset.



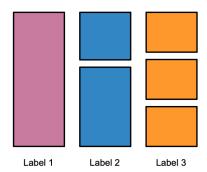
Step 3: We iterate with the other dataset.



Step 4: Repeat and sample the smaller dataset till get the same size of the bigger dataset.

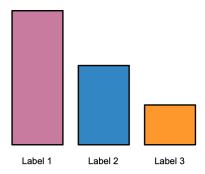


Step 5: We finally have the final datasets.

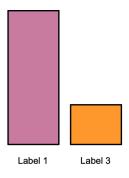


## Undersampling

**Step 0:** We have imbalanced datasets.



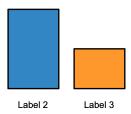
Step 1: We take the smaller dataset and we going to iterate with the other datasets.



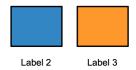
Step 2: Sample the bigger dataset till get the same size of the smaller dataset.



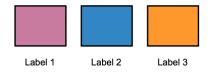
Step 3: We iterate with the other dataset.



Step 4: Sample the bigger dataset till get the same size of the smaller dataset.



**Step 5:** We finally have the final datasets.



## $\mathbf{SMOTE}$

We can use this method only for structured data and we only have to apply the same strategy of **Oversampling**.