

Given Row Structure =  $\left[ \left\{ \text{'key1': value, 'key2': value} \right\}, \left\{ \text{'key1': value, 'key2': value} \right\} \right]$

① each label will have learned dictionary structure.

② each Given list of dicts will transformed in 3 new features  $\begin{cases} f_{\text{High}} \\ f_{\text{Intermediate}} \\ f_{\text{Low}} \end{cases}$

③ in below example: Row:  $\left[ \left\{ \text{'id': 'en'} \right\}, \left\{ \text{'id': 'fr'} \right\} \right]$  will be 3 new values  $\begin{cases} 990 \\ 1960 \\ 256 \end{cases}$

Example of what learned:

Value,  $\text{freq(H)}$ ,  $\text{freq(I)}$ ,  $\text{freq(L)}$

'en', 880, 1790, 240

'fr', 110, 170, 16

⋮

\*  $\text{freq}$ : # class occurrences in dataset

$\rightarrow \{ \text{High, Intermediate, Low} \}$

Row:  $\left[ \left\{ \text{'id': 'en'} \right\}, \left\{ \text{'id': 'fr'} \right\} \right]$

Trained-High =  $\left[ \begin{matrix} \text{fr} = 110 & \text{en} = 880 \\ 1 & n \end{matrix} \right] \rightarrow \text{Confidence (High)} = 110 + 880 = 990$

Trained-Intermediate =  $\left[ \begin{matrix} \text{fr} = 170 & \text{en} = 1790 \\ 1 & n \end{matrix} \right] \rightarrow \text{Confidence (Intermediate)} = 170 + 1790 = 1960$

Trained-Low =  $\left[ \begin{matrix} \text{fr} = 16 & \text{en} = 240 \\ 1 & n \end{matrix} \right] \rightarrow \text{Confidence (Low)} = 16 + 240 = 256$

