

Reducing Multiclass to Binary

[with Singer]

- say possible labels are $\{a, b, c, d, e\}$
- each training example replaced by five $\{-1, +1\}$ -labeled examples:

$$x, c \rightarrow \begin{cases} (x, a), & -1 \\ (x, b), & -1 \\ (x, c), & +1 \\ (x, d), & -1 \\ (x, e), & -1 \end{cases}$$

- predict with label receiving most (weighted) votes