

# Logistic vote choice model sketch

binary outcome variable

$$\text{vote\_trump} = \begin{cases} 1 & \text{if respondent voted for Trump} \\ 0 & \text{if respondent voted for Harris (2024)} \end{cases}$$

$$p(\text{Vote\_trump} = 1) = \sigma \left( \underbrace{\beta_0 + \beta_1 x_1 + \dots + \beta_j x_j + \dots + \beta_p x_p}_{\text{linear component}} \right)$$

logistic activation      micro-level features      macro-level features

use threshold  
classify as Trump voter  
if  $\geq 0.5$ , Harris otherwise

use python autodiff framework!

## vectorized computation graph

