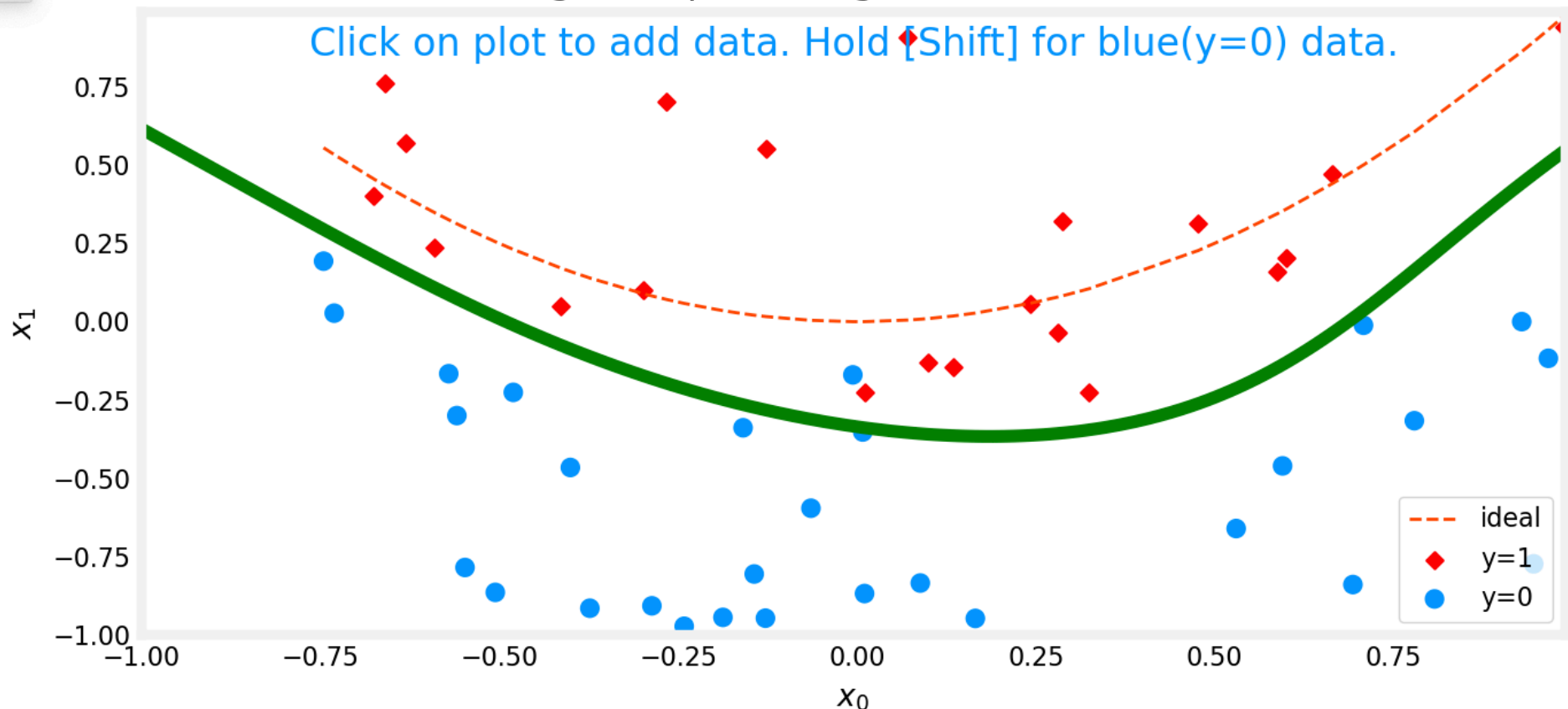


# OverFitting Example: Categorical data set with noise

Click on plot to add data. Hold [Shift] for blue(y=0) data.



$$f_{wb} = \text{sigmoid}(w_0x_0 + w_1x_1 + w_2x_0^2 + w_3x_0x_1 + w_4x_1^2 + w_5x_0^3 + w_6x_0^2x_1 + w_7x_0x_1^2 + w_8x_1^3 + w_9x_0^4 + w_{10}x_0^3x_1 + w_{11}x_0^2x_1^2 + w_{12}x_0x_1^3 + w_{13}x_1^4 + w_{14}x_0^5 + w_{15}x_0^4x_1 + w_{16}x_0^3x_1^2 + w_{17}x_0^2x_1^3 + w_{18}x_0x_1^4 + w_{19}x_1^5 + w_{20}x_0^6 + w_{21}x_0^5x_1 + w_{22}x_0^4x_1^2 + w_{23}x_0^3x_1^3 + w_{24}x_0^2x_1^4 + w_{25}x_0x_1^5 + w_{26}x_1^6 + b)$$

Degree

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☒ 6

fit data

☐ Regression

☒ Categorical

lambda( $\lambda$ )

☐ 0.0

☐ 0.2

☐ 0.4

☐ 0.6

☐ 0.8

☒ 1