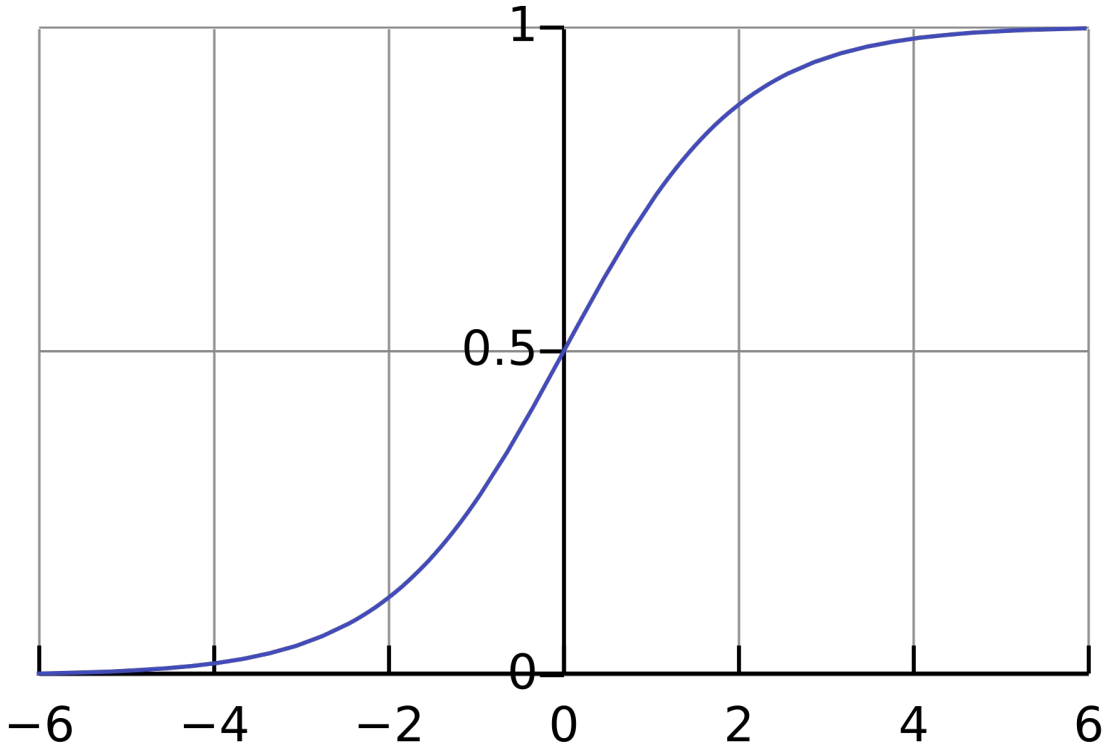
LogReg

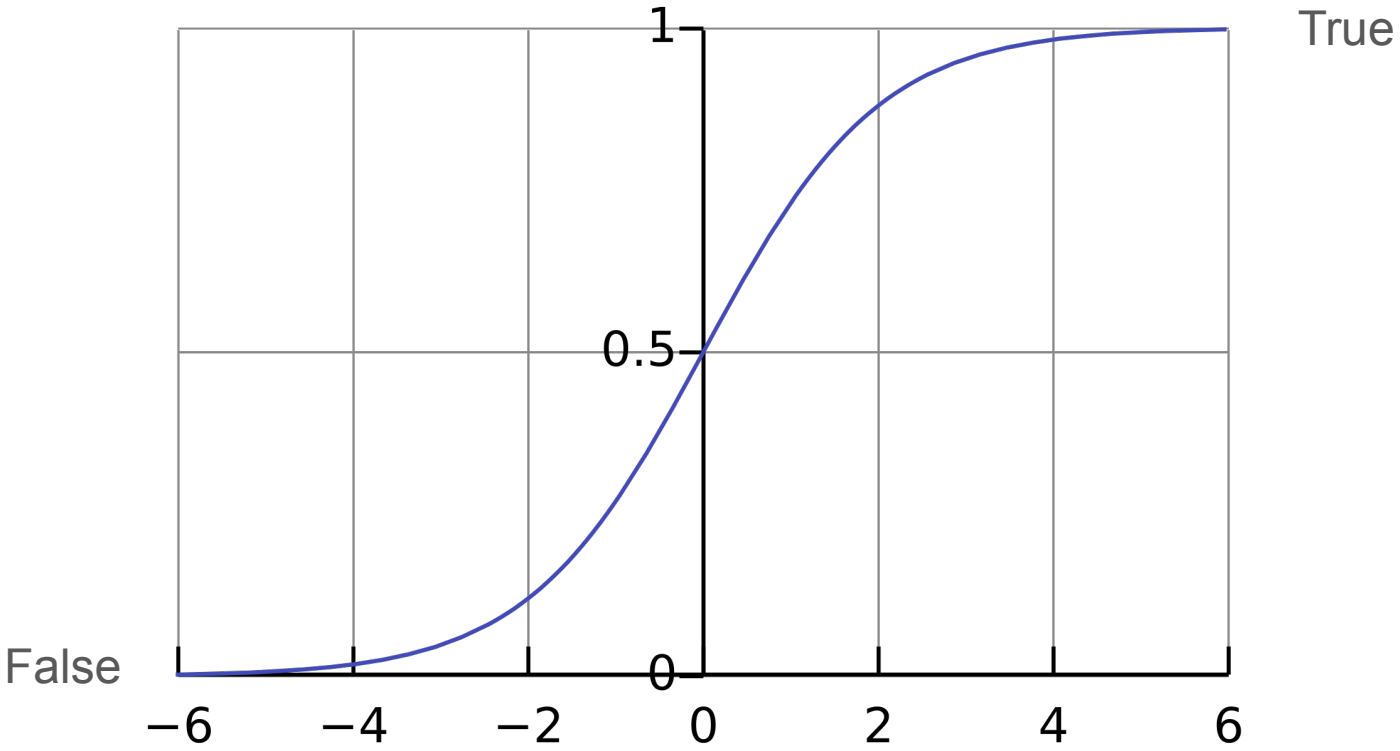
Logistic Regression

Logistic Function

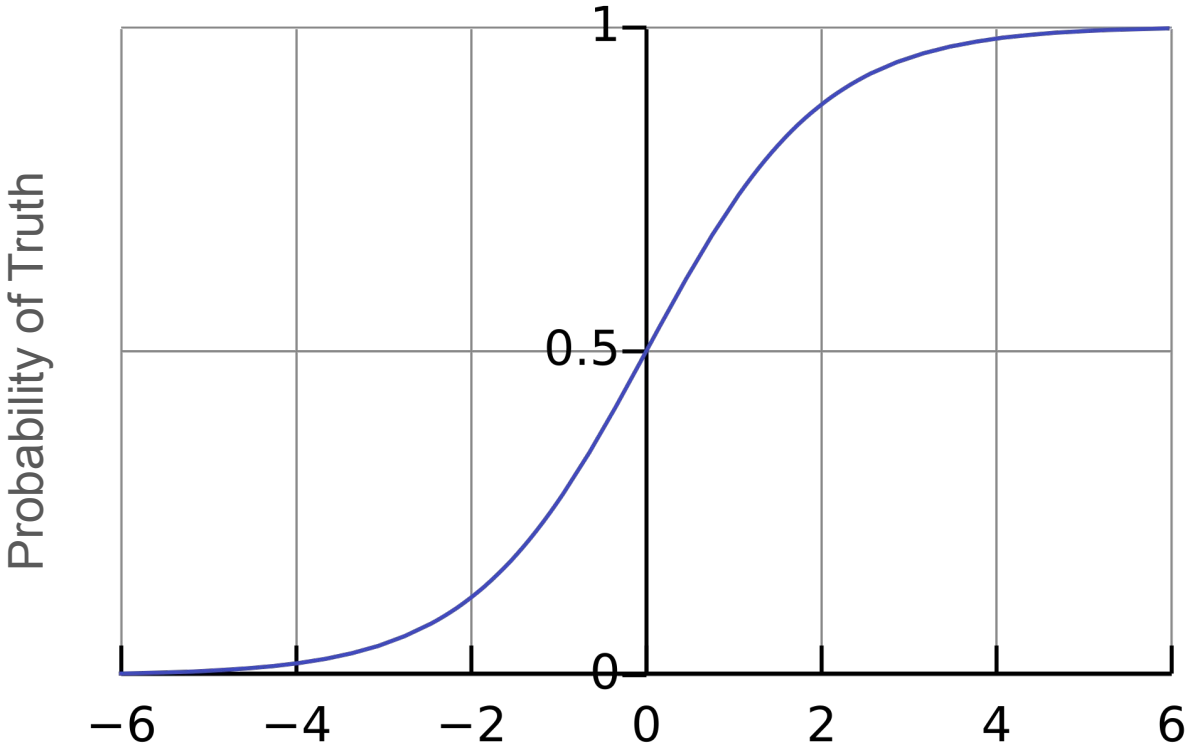
$$f(x) = \frac{L}{1 + e^{-k(x - x_0)}}$$



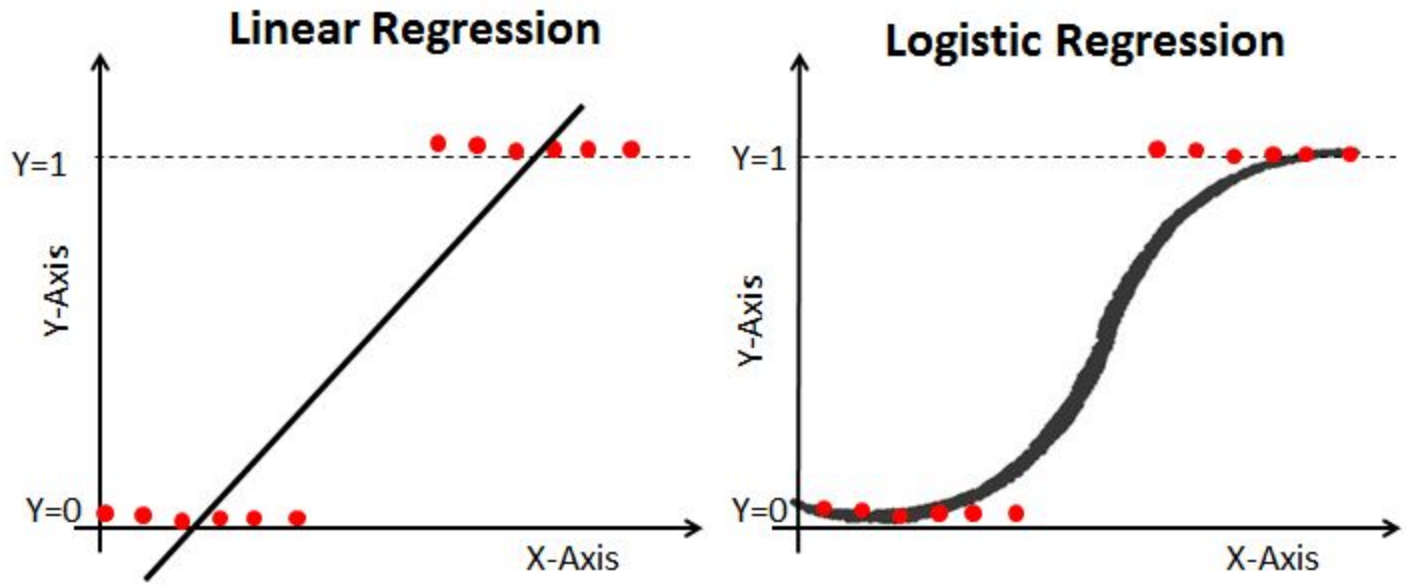
Logistic Function



Logistic Function



Linear vs Logistic regression



Logistic Regression

- Logistic Regression is very similar to a linear regression, except that the goals are binary and not continuous.
- Our target variables are either 0 or 1, true or false, cat or not cat, etc
- Input dimensions can be continuous OR discrete
- Provide a statistical methodology to know whether a variable is statistically relevant to a prediction
- Very high explainability

Logistic Regression assumptions

- Target variable is binary
- Little co-linearity in input data (independent variables)
- Linear relationship between variables and log(odds)
- Large sample size
- No Extreme outliers
- Independent observations