Notation Key

Description	What	Example/Formula/Limitations	Reference/Comments
Vectors	Boldface	$\mathbf{X}=\begin{vmatrix}x1\\x2\\x3\end{vmatrix}$ $X^T = [X_1\ X_2\ X_3]$ $X^T Y = X_1Y_1+X_2Y_2+X_3Y_3$	
Scalars	Normal Font		
Second Data Record	n		
Second component of a vector X	$\mathbf{X}_2$		
Number of data records	n		
star	True quantity or Actual	O*	
hat	Estimates		
Upper Case	Random Variables	Y	
Lower Case	Numbers and constants	y for realized value of Y	

Introduction to Supervised Learning and Regression

Description	What	Example/Formula/Limitations	Reference/Comments
Ordinary Least Squares (OLS)	is a common technique for estimating coefficients of linear regression equations which describe the relationship between one or more independent quantitative variables and a dependent variable (simple or multiple linear regression)		
Confidence bands	Confidence interval width interval changes with X In simple regression, this gives a confidence band		