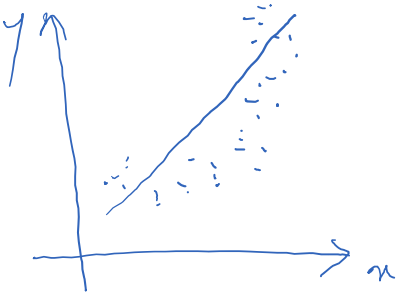
11 February 2018 11:38

Polynomial - linear Regression (Beyond Normal linear)

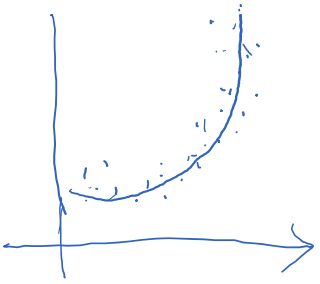
- Polynomial LR → Add extra predictors → Raising the original once to Power

Linear → $y = b_0 + b_1 x_1' + b_2 x_2' + b_3 x_3' + \dots$

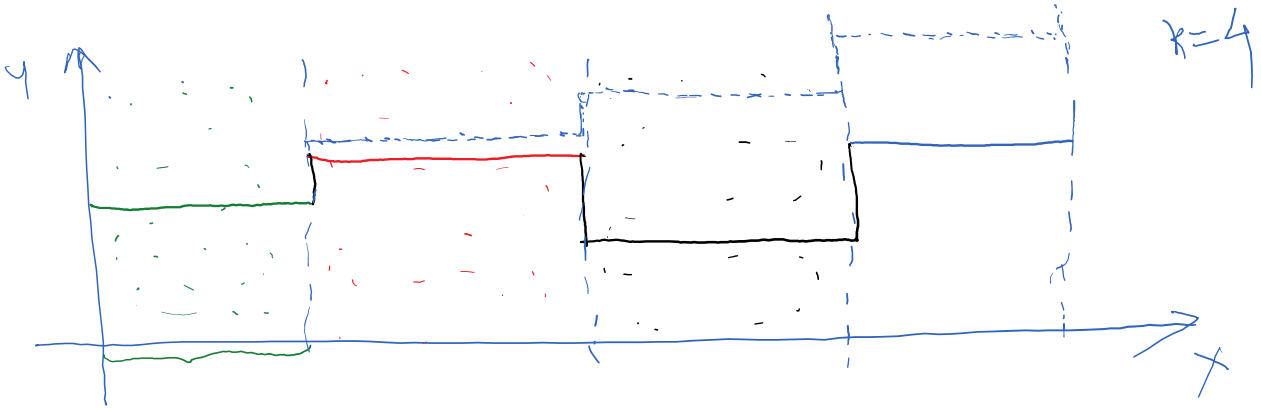


Cubic → $y = b_0 + b_1 x_1' + b_2 x_2^2 + b_3 x_3^3 + c$

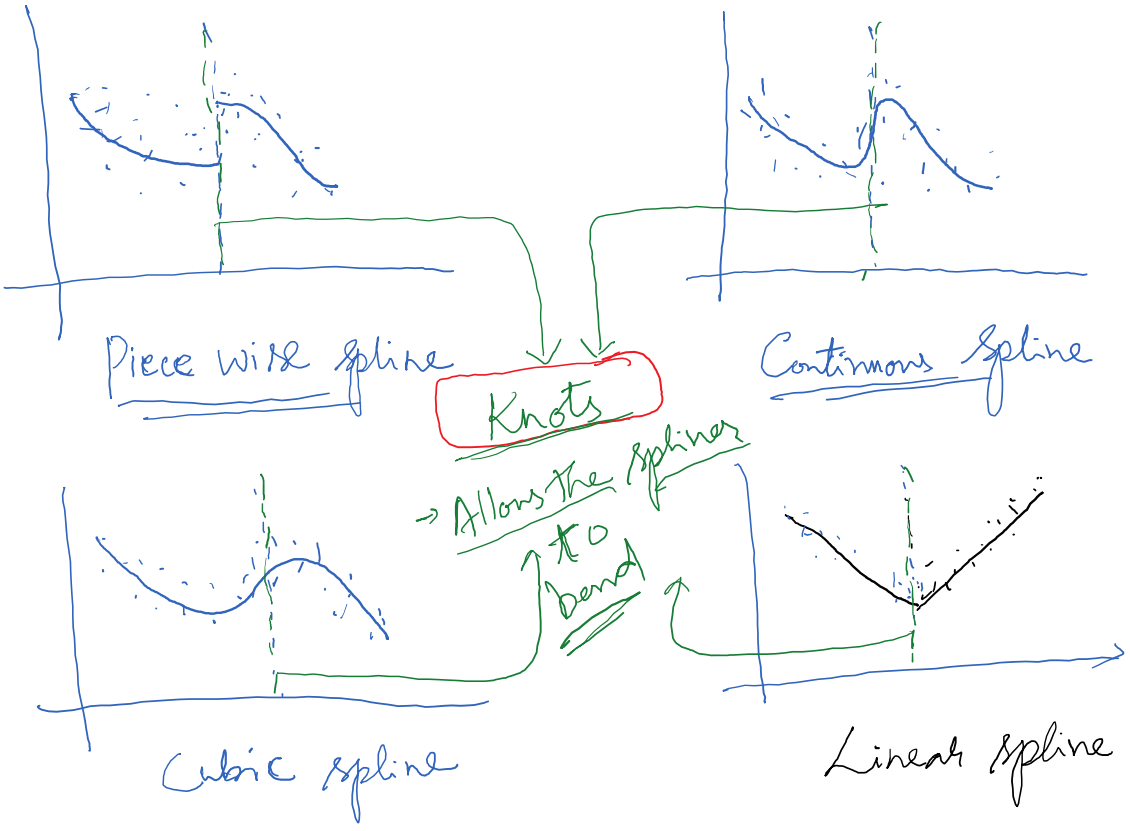
Power(3)



- Step function → Cut the range of variables in to "K" distinct regions in order to produce "quantitative Variable" & fit a piece wise "Constant function"



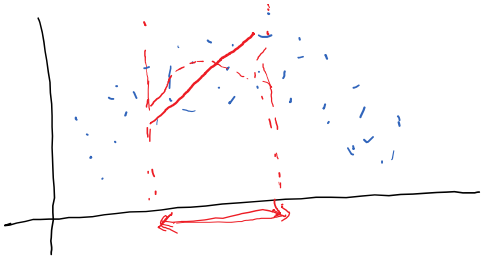
- Regression Splines → More flexible than polynomial.
  → Divide in to "K" & fit "Polynomials"



⊛ Smoothing spline → Similar to regression spline

RSS ↓ → get smooth line

⊛ Local Regression → Fit a linear equation in a target point



⊛ GAM → general additive models → Allows us to extend the methods to multiple predictors.
