Beyond Linearity Overview

All the algorithms we discuss so far have been linear, which means they assume that's the relationship between the Response Y and Observations X is linear which allow for ease of interpretation and explanation for the model, but when it comes to real world data it's almost always **non-linear**.

This chapter covers methods to extend the linear models while trying to maintain as much **interpretibility** as possible which is the main appeal of linear models , these are the sections :

1. Polynomial Regression
2. Step Functions
3. Regression Splines
4. Local Regression
5. Generalized Additive Models