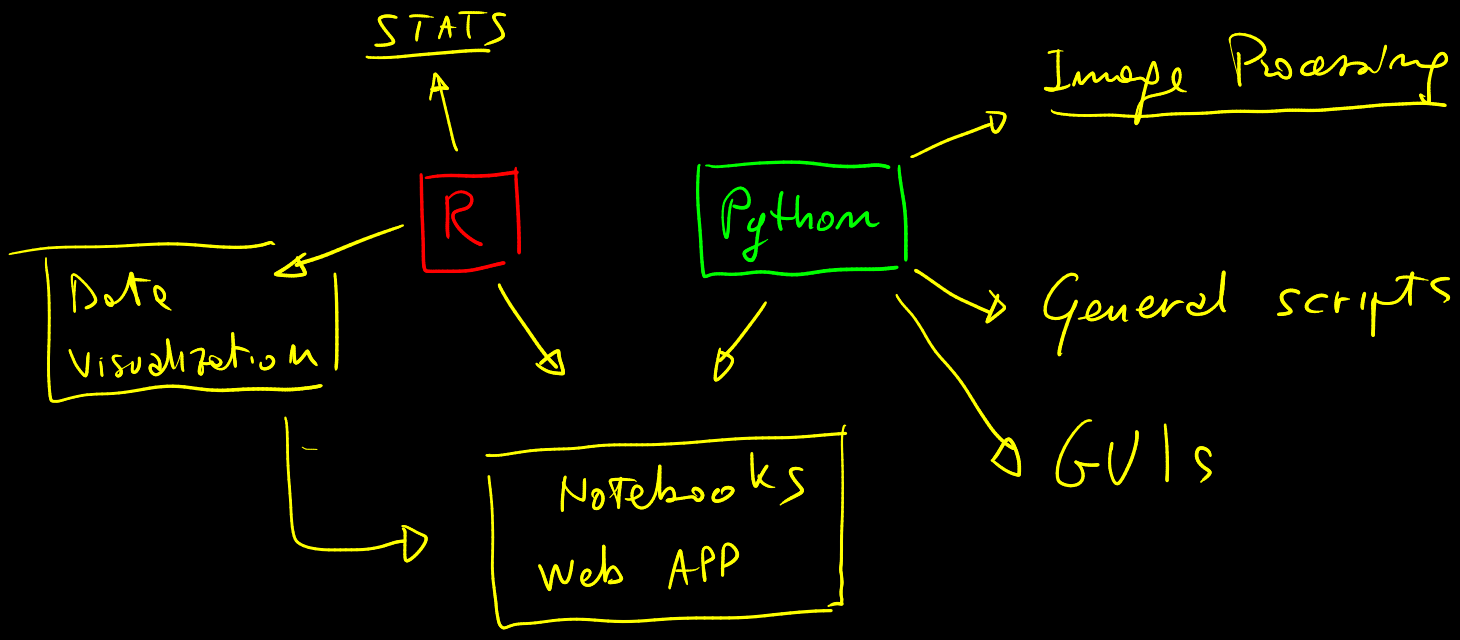
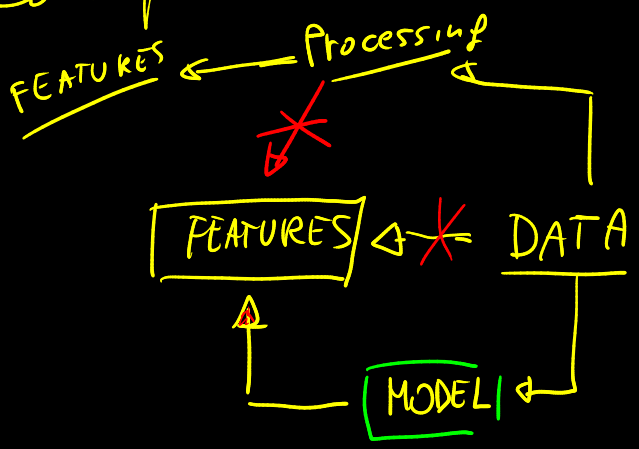
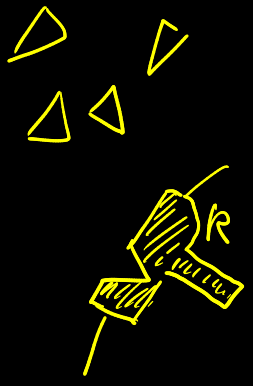
1 - Intro. STATS, R/Python, Visualization/communication

Data analysis



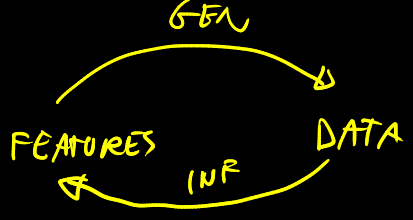
2. Concepts





However MODEL + STATS ?→ FEATURES

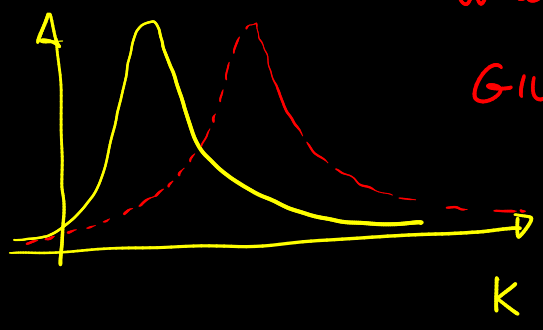
= STATISTICAL MODEL !



Compare features across conditions

e.g. WT/mutant

3. Uncertainty



what are the value of feature "k" GIVEN my data ?

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4. Parametric distributions

- Normal
- Gamma / Exp / Log-normal } Continuous

- Binomial
- Poisson } Discrete

5. Bayes theorem $P(X, \text{state})$

On a sample of sick patients it was found that in 20% of the patients the parameter X is increased

we know that $P(X) \sim 1\%$ and 2% of the pop is infected

$$P(s|X) = \frac{P(X|s) \cdot P(s)}{P(X)}$$

$$\frac{0.2 \cdot 0.02}{0.01} = \underline{\underline{0.4}}$$