-> <u>Module 6</u> : Data Manipulation Technie

[*] ~ Scalar Value

~ Vector

1-D

~ Matrix

2-D

~ Tensor

3-D ~~~ N-D

=> <u>Terms:</u>

cols / attributes / features

tuples / rows ->

/ parameters

Probability

Descr | Inferential
S   (S

L.Alg   Stats

Calc   Trigo

Predictive Analytics

Back prop

ML
DL   GenAI
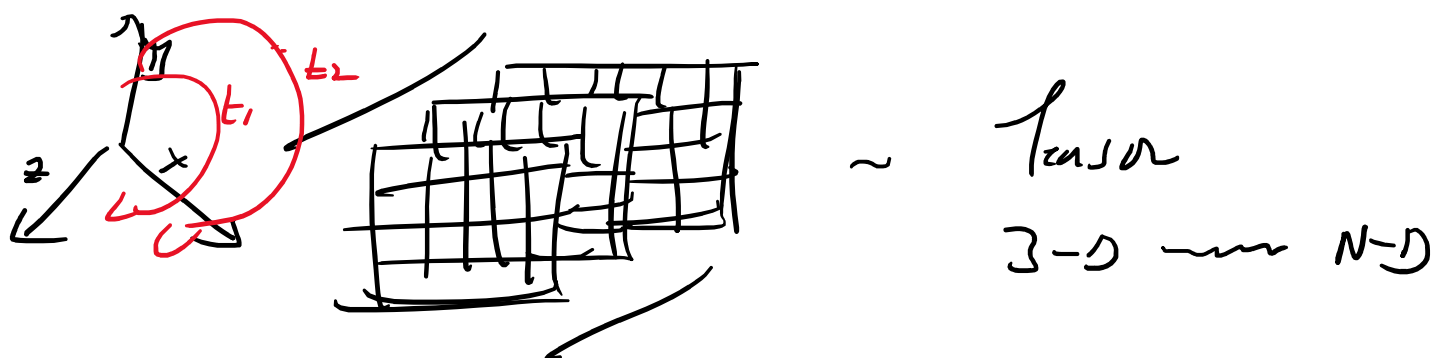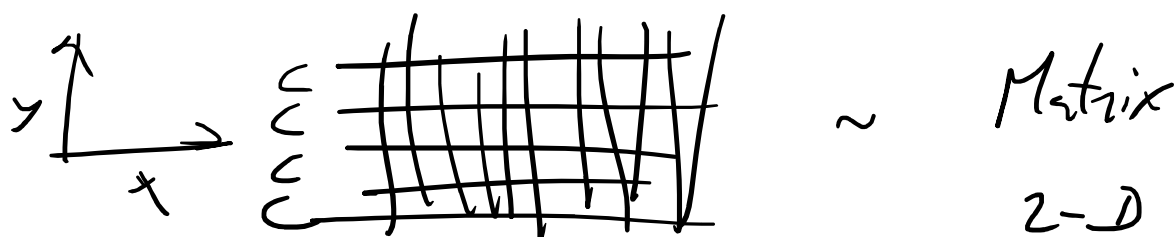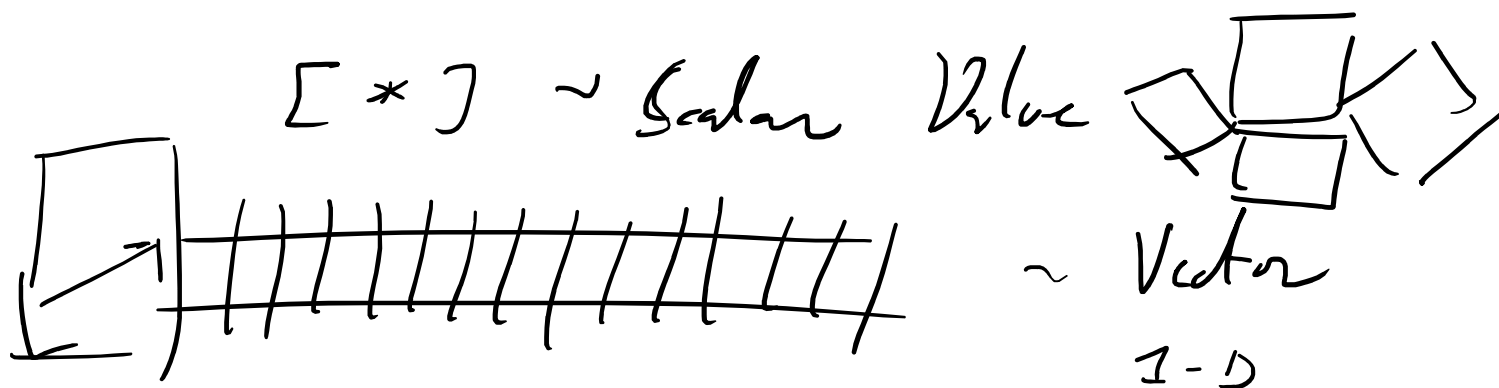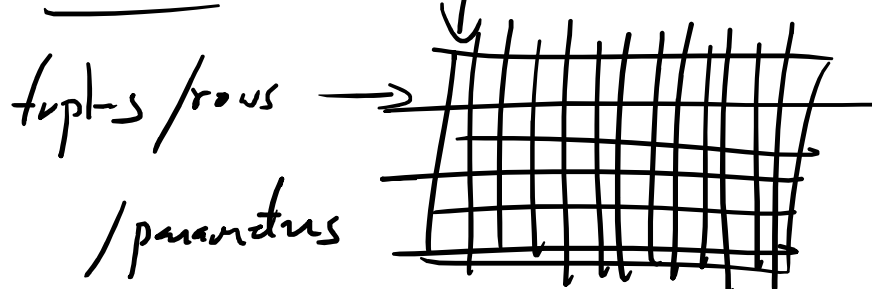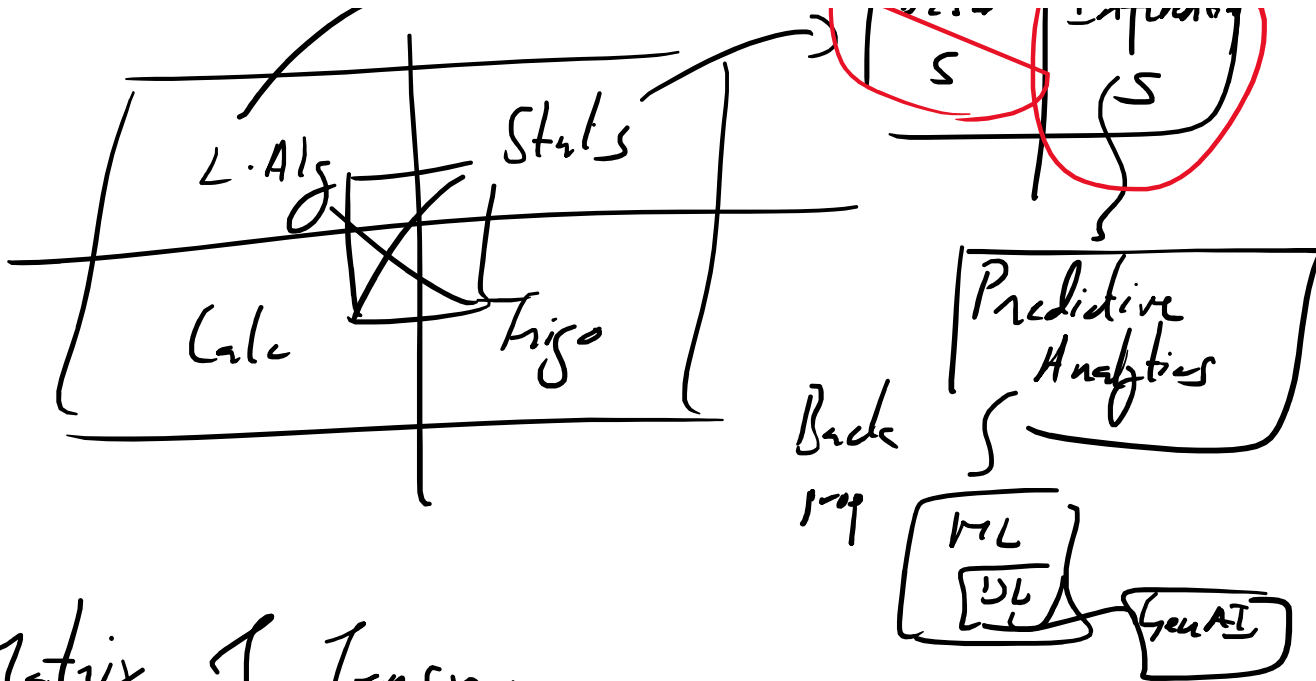
⟹ Matrix ⨍ Tensor

NumPy ~ Numeric Python

⟹ Feature Engg ~ Pandas

Series   Data f?

⟹ $\dfrac{\text{Mat } \& \text{ Tensor}}{\text{Tables/Schemas}}$ ⟹ Arrays ⟹ iloc

Streamlined

⟹ Lists — Python

=> Inferential Stats : Probabilistic Model

→ Hypothesis Testing

Parametric   Non-Parametric

[Seed]   [Random]

=> Matrix Multiplication :

→ Element-wise   -> Dot Product

→ Matrix Multiplication $(n \times m) \times (m \times 2)$

Matmul $\approx$ ⑤ $n \times 2$