What We Will Learn

3 Main Important things

23+ hrs → Maths

① Linear Algebra

② Statistics → Basics to Advanced ⇒ Applications of all these Topics In Data Science.

③ Differential Calculus.

① Linear Algebra : Scalers, Vectors, Vectors Operation, Matrices, Matrix Operation functions, Linear Transformations, Inverse function, Eigen values and Eigen vectors

Neural NW : Forward propogation → Matrices operations

⇓

Applications In Data Science

② Statistics → ML, Deep Learning → Models ⇒ Huge Dataset

↳ Tools to learn from these Data

Descriptive

① Measure of Central Tendency

② Measure of Dispersion

③ Histograms, Box plot

④ Types of distribution of DATA.

⑤ PDF, PMF, Normal Distr, LogNor

Inferential.

① Hypothesis Testing & P Value

② Z test, t-test

③ Chi Square Test

④ ANNOVA Test

} Multiple problems

Applications

③ Differential Calculus

① Derivatives, Slope ⇒ Visual Diagrams ⇒ Deriving Equations ←

② Tangent lines

③ polynomial Expressions [Derivative of this Expression]

④ Trignometric Expression

⑤ Chain Rule of Derivative ↑

⑥ Composite Function ↑ ⇒ } Optimizations ⇒ Chain Rule.

Applications of Linear Algebra, Stats Differential In Data Science

① Simple Linear Regression, Multiple Linear Regression ← Application

② Dimensionality Reduction [Principal Component Analysis] → Eigen Values, Eigen Vectors

③ Neural N/W IS TRAINED → ANN → Multi Layered NN.

↓

Artificial NN