

# Statistics

- Descriptive statistics
- Central tendency
- Variance
- Correlation
- Baye's theoram
- Conditional probability
- Probability calculus
- Uniform distribution
- Normal distribution
- Binomial distribution
- Chi-square
- Student's t-distribution
- Central limit theorem
- Sampling
- Hypothesis testing
- AB testing
- Confidence intervals
- p-values
- ANOVA
- t-test

# Statistics

## YOUTUBE

- StatQuest
- 3Blue1Brown
- KhanAcademy

## COURSES

- Statistics with R Specialization (Coursera)
- Business statistics and analysis specialization (Coursera)
- Inferential and Descriptive Statistics (Udacity)

# Linear Algebra

- Scalar multiplication
- Linear transformation
- Transpose
- Conjugate
- Rank
- Determinant
- Matrix multiplication
- Matrix inverse
- LU decomposition
- Gaussian/Gauss-Jordan  
elimination
- Eigenvalues & eigenvectors
- Singular value decomposition

# Linear Algebra

## YOUTUBE

- MIT
- 3Blue1Brown
- KhanAcademy

## COURSES

- Mathematics for machine learning: linear algebra (Coursera)
- Computational Linear Algebra for coders by fast.ai
- Linear algebra: foundations to frontiers (EDX)

# Calculus

- Functions of a single variable
- Limit
- Continuity
- Differentiability
- Mean value theorems
- Maxima and minima
- Product and chain rule
- Taylor's series
- Fundamental and mean value-theorems of integral calculus
- Beta and gamma functions
- Functions of multiple variables
- Basics of ordinary and partial differential equations

# Calculus

## YOUTUBE

- MIT
- 3Blue1Brown
- KhanAcademy

## COURSES

- Thomas calculus
- Mathematics for machine learning:  
multivariable calculus (coursera)