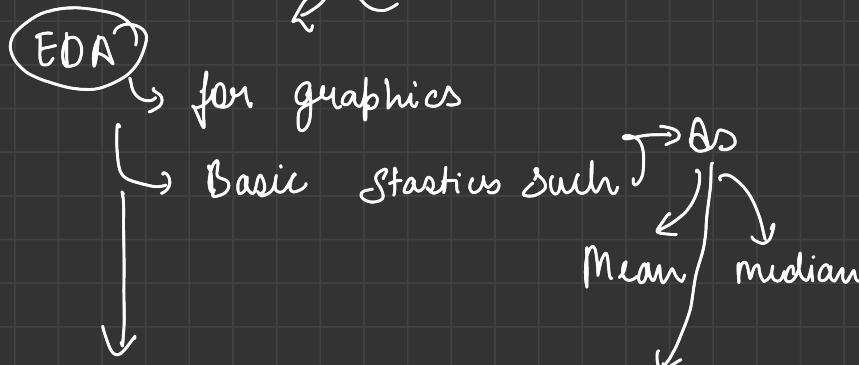


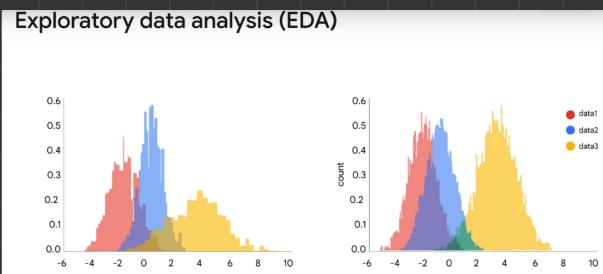
Exploratory Data Analysis

↳ Approach → which is for → Analyzing data set to summarize the main characteristic

EDA → helps what Data ↗ Can tells Beyond
the formal Modeling
or
• hypothesis testing task



- look at data of trends, outlier and patterns



→ These all thing
Can be tested
in modeling
Steps

EDA Techniques →

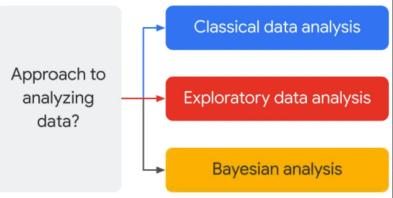
- ↳ Mostly graphical
 - ↳ Maximize insight into a Dataset
 - ↳ Uncover Underlying Structure
 - ↳ Extract important Variable
-
- ↳ detect outlier
 - ↳ anomalies
 - ↳ test underlying assumption
 - ↳ develop ↳ Parsimonious models
-
- ↳ determine optimal factory setting

(3) → Data analysis Approch are



CDA vs. EDA vs. Bayesian?

What other approaches exist and how does exploratory data analysis differ from these other approaches?



3 approaches are similar Only



Difference is the sequence and focus

Intermediate Steps

Problem \Rightarrow Data \Rightarrow Model \Rightarrow Analysis \Rightarrow Conclusion

↓

Classical

\rightarrow follows as predetermined Model

↓

Focus On

↳ Estimating } \rightarrow Parameter within the
} testing Model.

Problem \Rightarrow Data \Rightarrow Analysis \Rightarrow Model \Rightarrow Conclusion

EDA

\rightarrow Starts By analyzing the Data

↓

Focus is

Put the appropriate model

↓ Based on the Data Analysis

↳ Allow Data \rightarrow to Suggest \rightarrow Best fitting model

Problem \Rightarrow Data \Rightarrow Model \Rightarrow Prior Distribution
Bayesian \Rightarrow Analysis \Rightarrow Conclusion

focus \rightarrow on Research Kind of thing
 \downarrow

using Probability finding thing
Statements about unknown Parameter

(EdA) \rightarrow doesn't impose deterministic }
 \hookrightarrow Probabilistic } \rightarrow model on Data
 \downarrow (like Classical)

Purpose of Bayesian Analysis

\downarrow
is to determine Posterior Probabilities based
on Prior Probabilities

Posterior Prob \rightarrow Data or background information
 \hookrightarrow Evidence
will be taken after Event

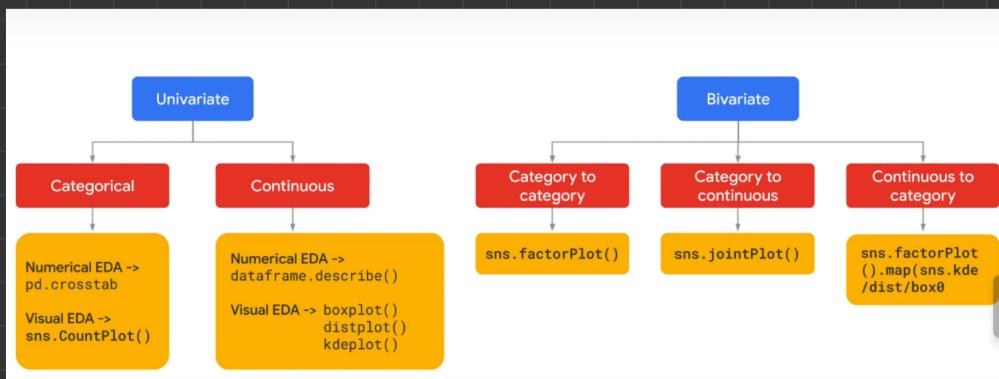
Prior Probabilities → Before Event

How EDA used in ML ?

(EDA) → Allows → Data → to Suggest a model
↓
for themselves.

So need to focus on Data

↳ Structure
↳ Outlier
↳ models suggested by Data



Exploratory Data Analysis (EDA) typically Performed
Using above Methods