

Problem of Decision Tree

Overfitting — Pruning

Random Forest

Job Offer

1. Fixed Pay
2. Variable Pay
3. Stock
4. Bonus
5. Health Insurance
6. WFLH
7. Cab
8. Free Food
9. City



10. Timing

Decision Tree

you consult an expert and show all your information on offer details based on that they will suggest

✓ 100 people — expert

✓ Randomly show (3) feature → suggestion

70 consider 30 not consider

Consider

① WFH
Free Food
Cab

② Fixed Pay
Health Insurance
Timing

③ City
Stock
Bonus

④ Fixed
Cab
WFH

⑤ Timing
City
Bonus

⑥ Variable
WFH
Cab

Fixed Pay	-2
Bonus	-1
WFH	-1
Stock	-1
Variable	-1

Best
Feature

Feature
Importance

Ensemble Model

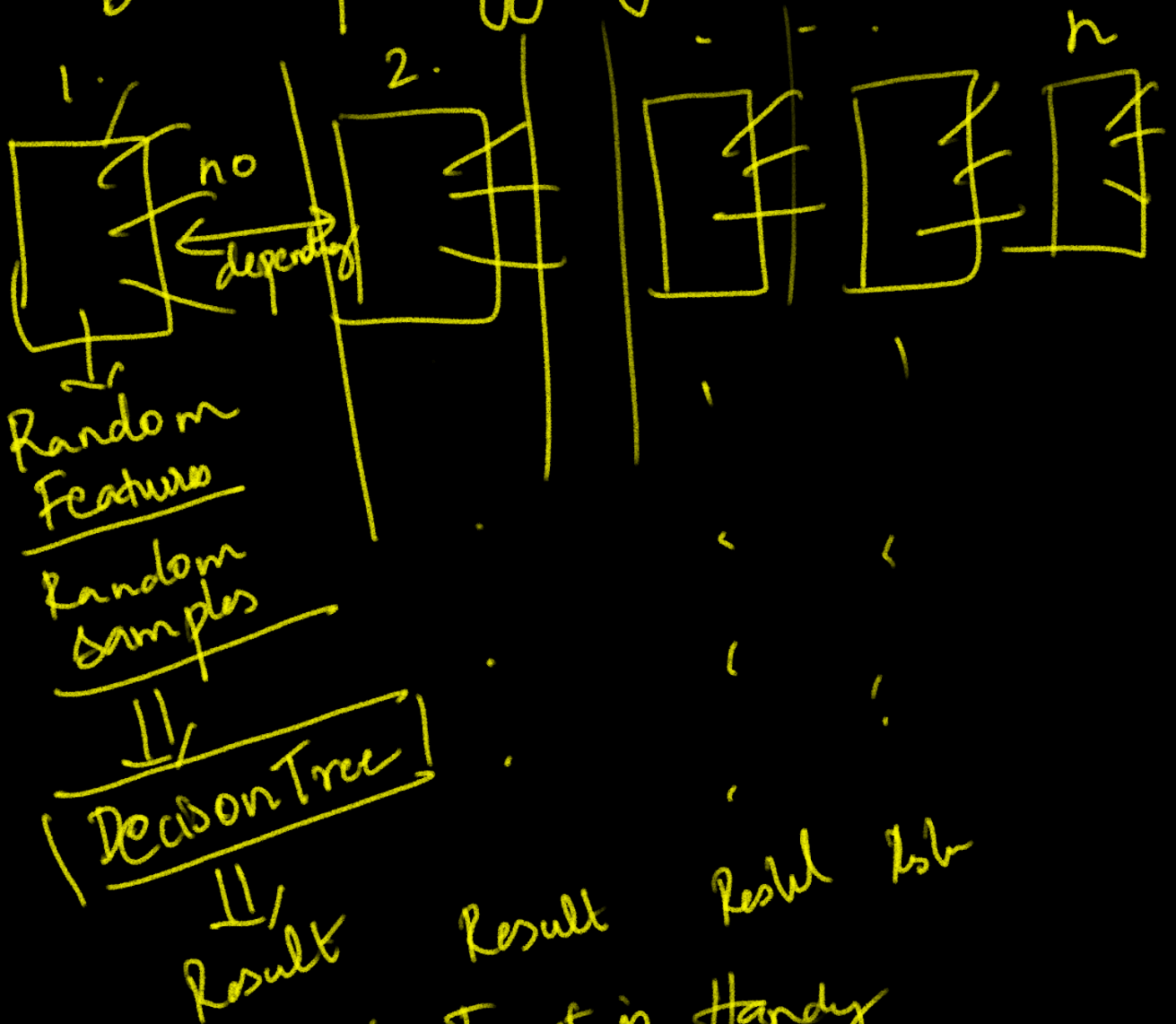
Bagging

Random Forest

Boosting

Bagging ✓

Bootstrap Aggregation



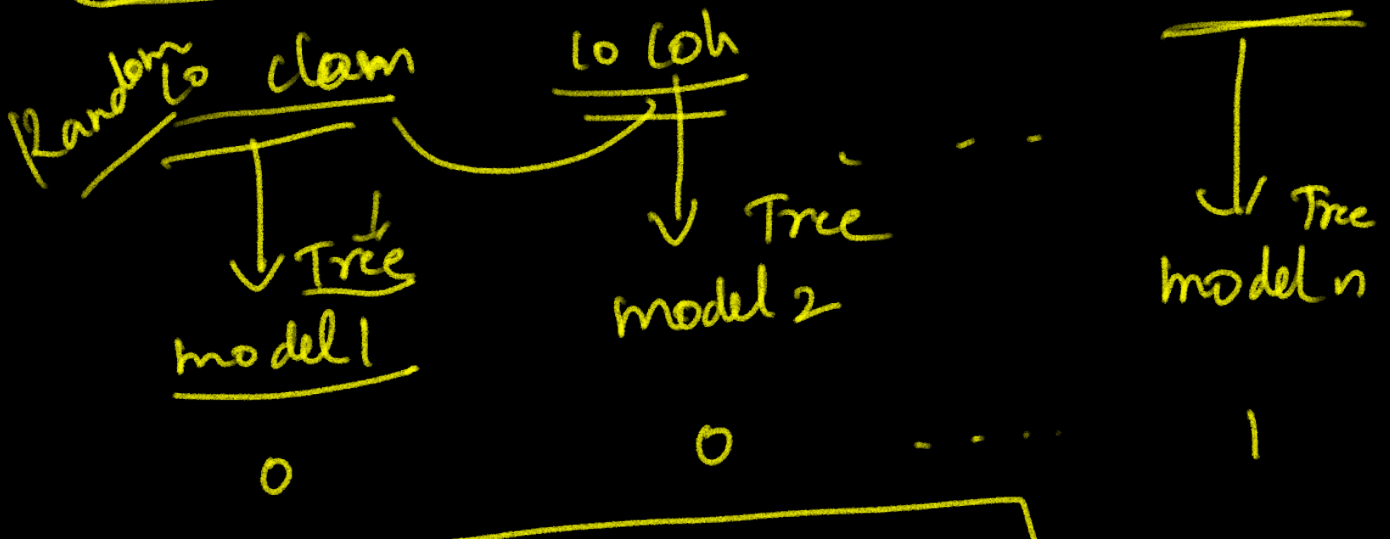
Random Forest is Handy
Distributed Environment
Hadoop environment | Interview

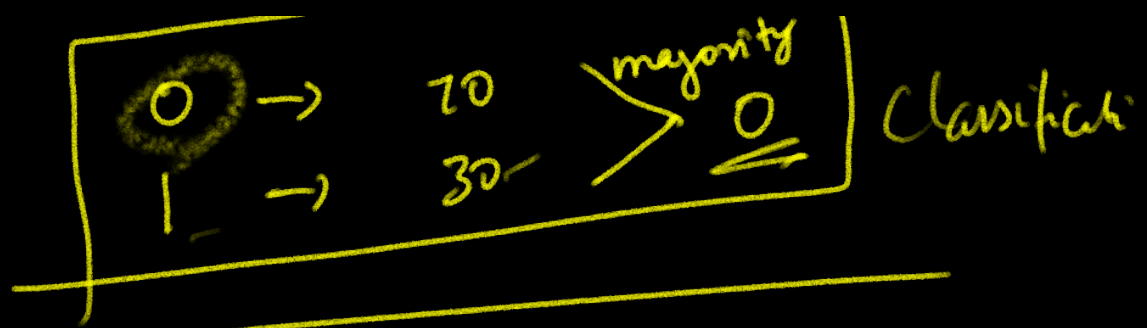
Random Forest

100 Trees → Forest
Small → Random

Classification - \sqrt{m} ✓
Regression - $m/3$ ✓

100 columns





Random Forest

default → Criticon → root node

Gini index

↳ Less time computation

Both Classification and Regression

↓
Voting
majority
Class

↓
Mean