

Decision Tree

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Decision Tree

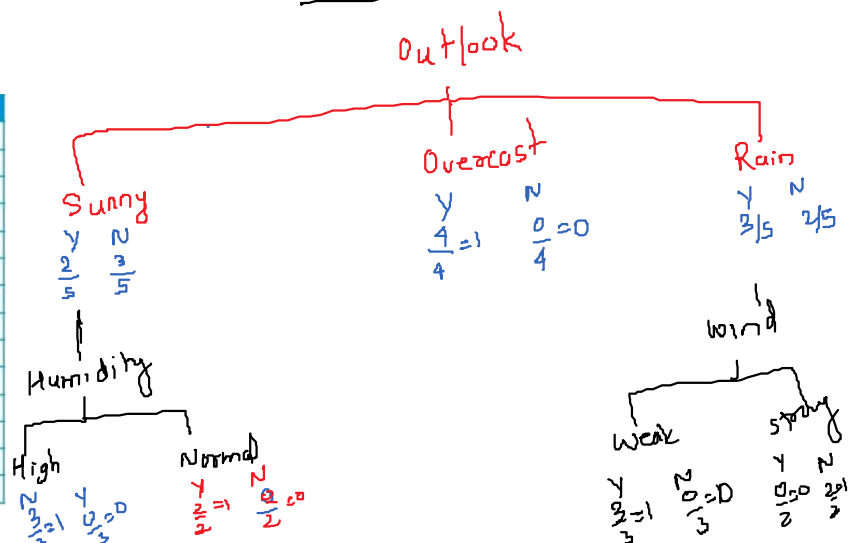
- A supervised ML algorithm, used for both regression and classification
- A non linear model, it can also learn non linear relationship between features and target attributes.
- It is one of the most explainable ML algorithm

$$-\frac{9}{14} \cdot \log_2\left(\frac{9}{14}\right) - \frac{5}{14} \cdot \log_2\left(\frac{5}{14}\right)$$

$\frac{Y}{9/14}$ $\frac{N}{5/14}$

Entropy: Amount of uncertainty present in any event

	Day	Outlook	Humidity	Wind	Play
1.	D1	① Sunny	① High	Weak	No
2.	D2	② Sunny	② High	Strong	No
	D3	Overcast	High	Weak	Yes
	D4	Rain	High	Weak	Yes
	D5	Rain	Normal	Weak	Yes
3.	D6	Rain	Normal	Strong	No
	D7	Overcast	Normal	Strong	Yes
4.	D8	③ Sunny	③ High	Weak	No
	D9	④ Sunny	④ Normal	Weak	Yes
	D10	Rain	Normal	Weak	Yes
	D11	⑤ Sunny	⑤ Normal	Strong	Yes
	D12	Overcast	High	Strong	Yes
5.	D13	Overcast	Normal	Weak	Yes
	D14	Rain	High	Strong	No



train ● ●
test ● ●

