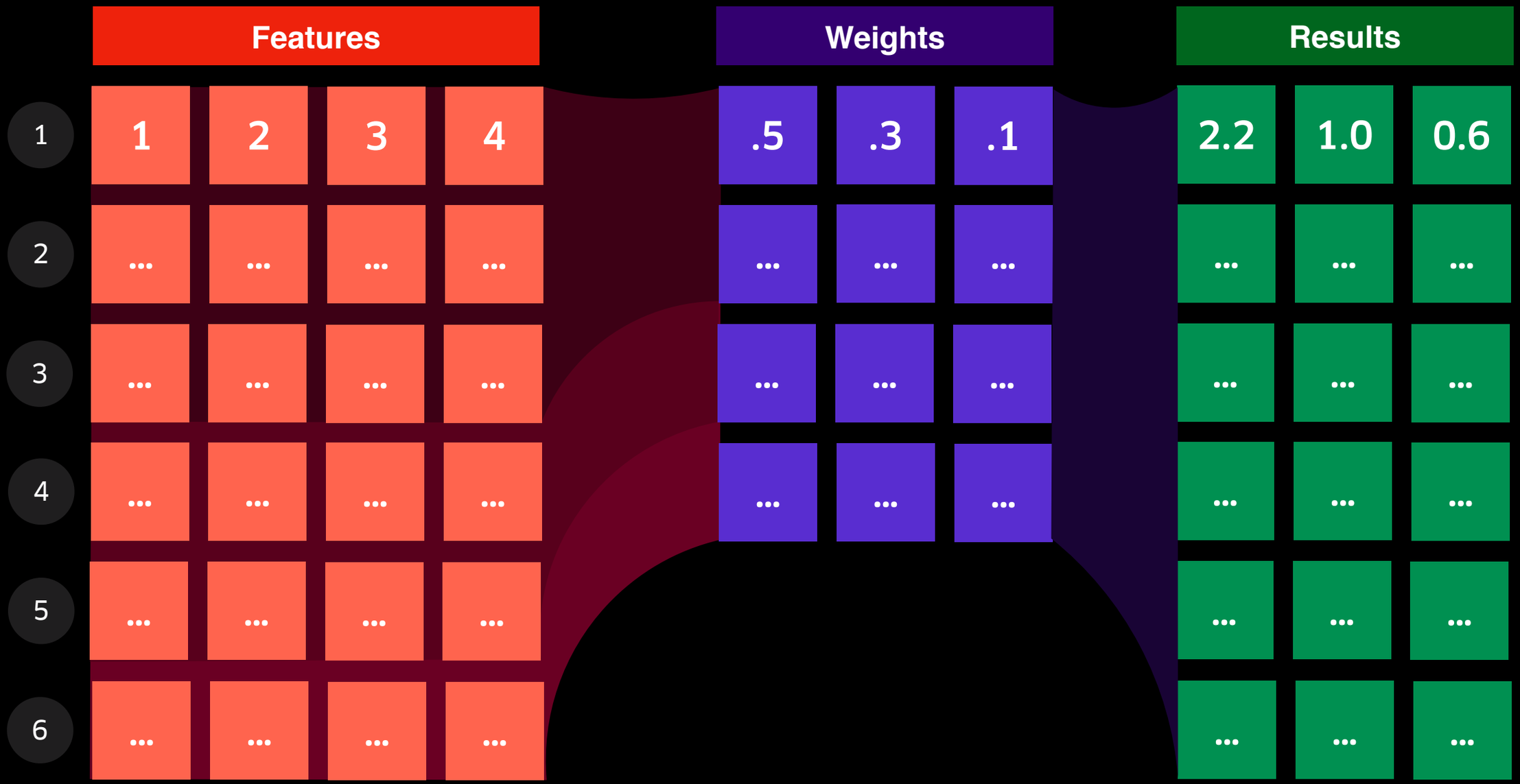
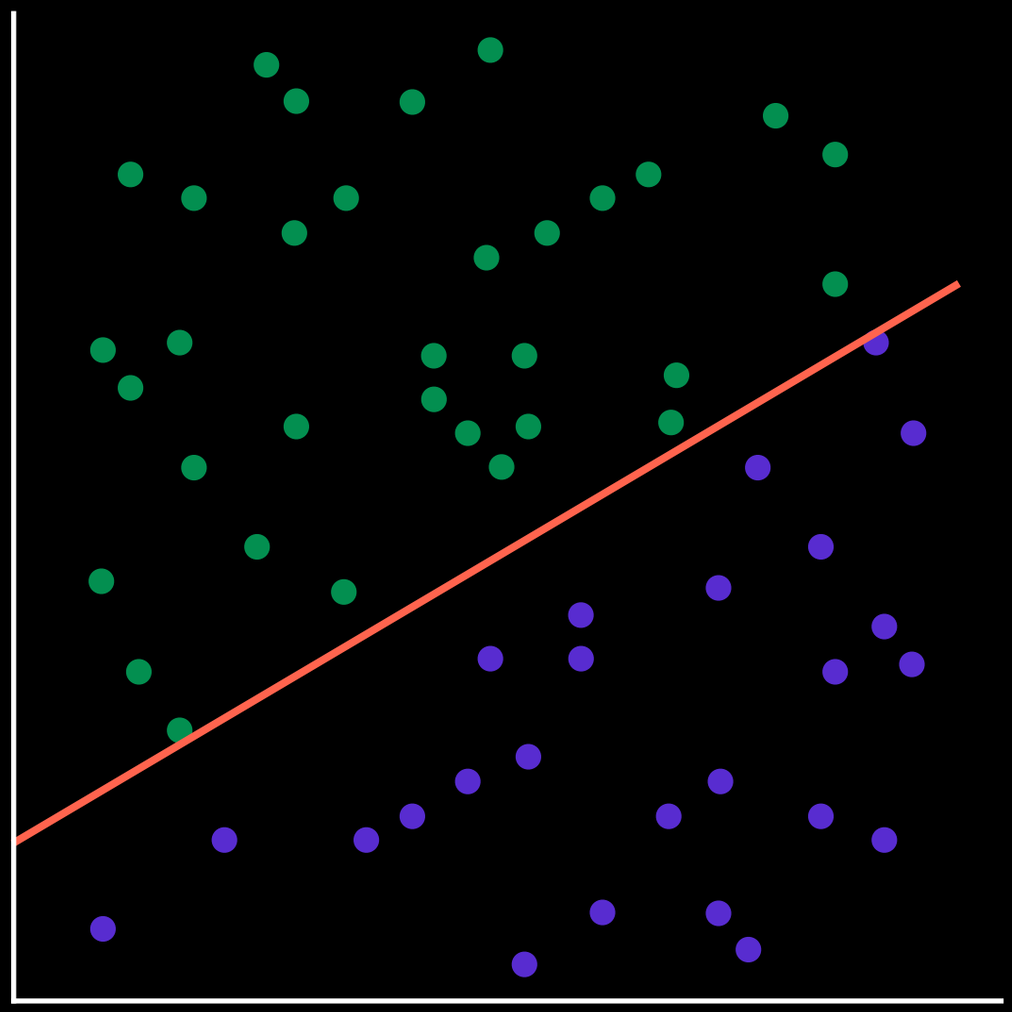
CNN

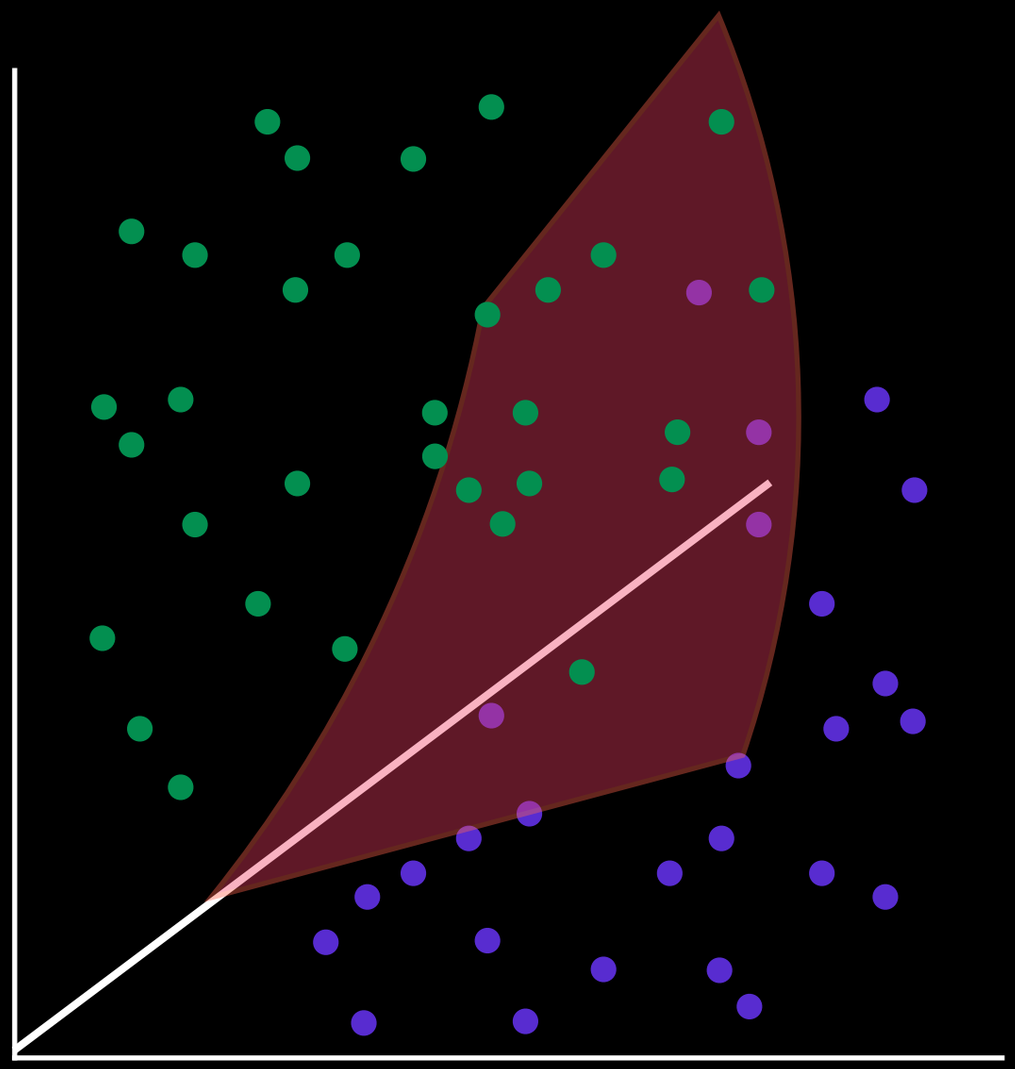
Convolutional Neural Net



SVM

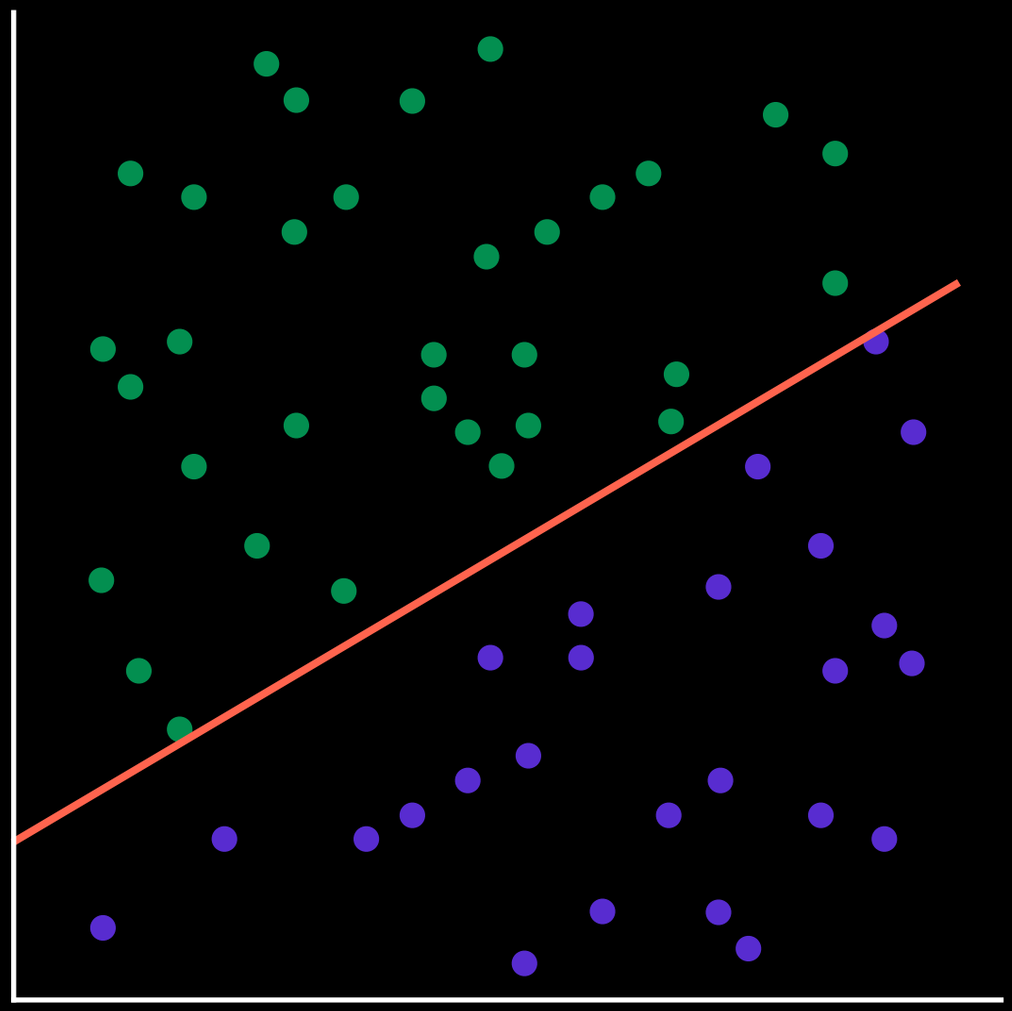
Support Vector Machine

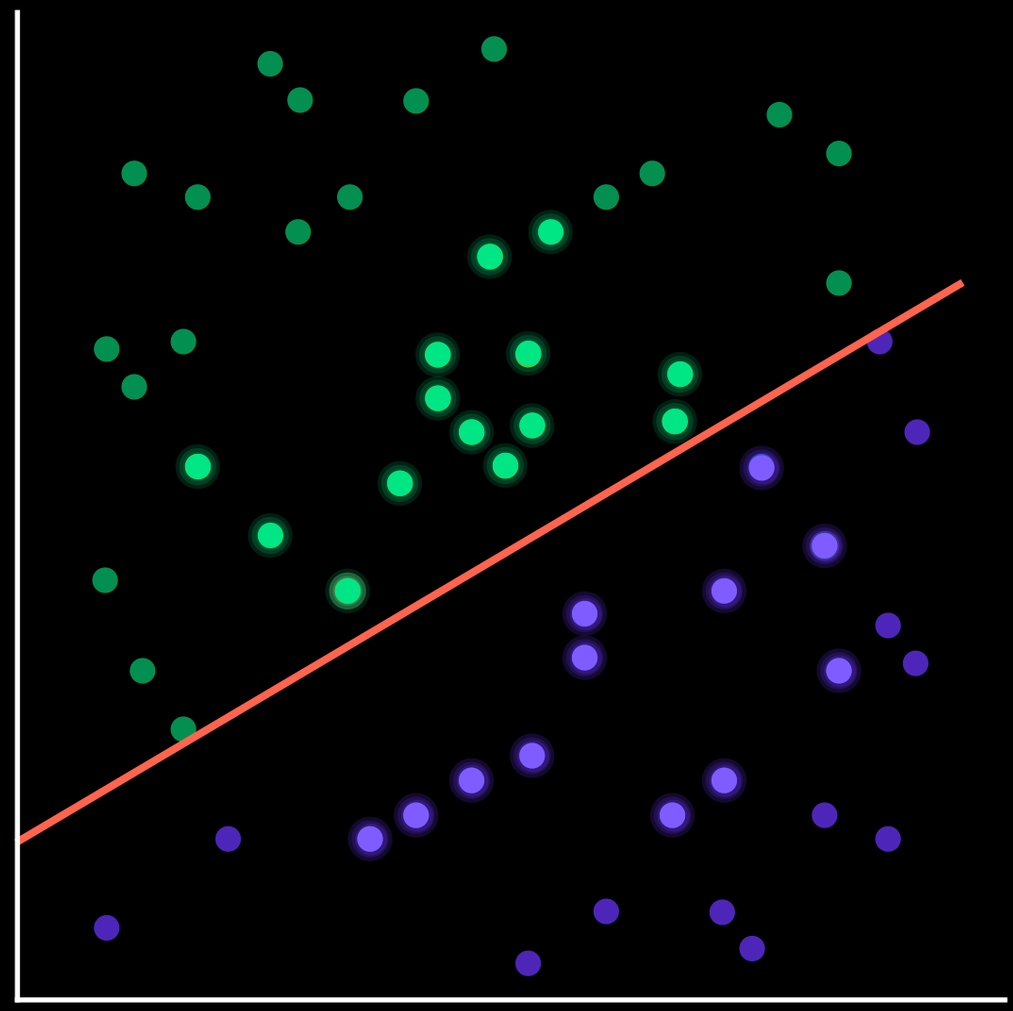




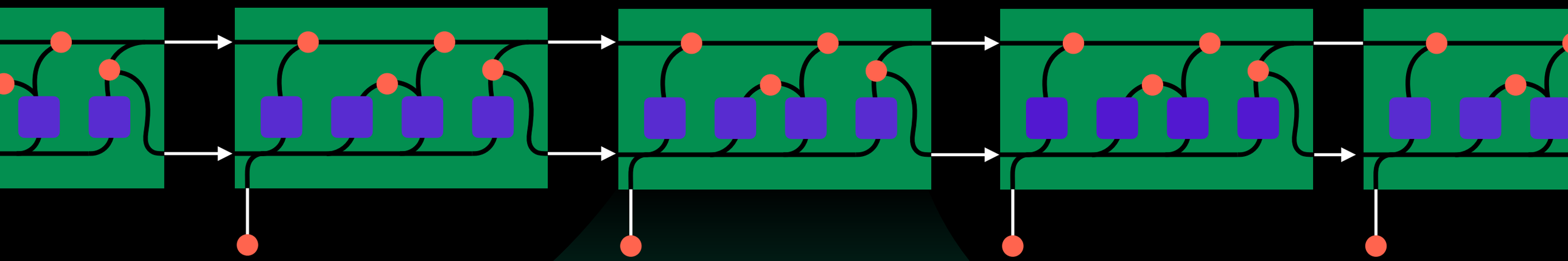
Detour

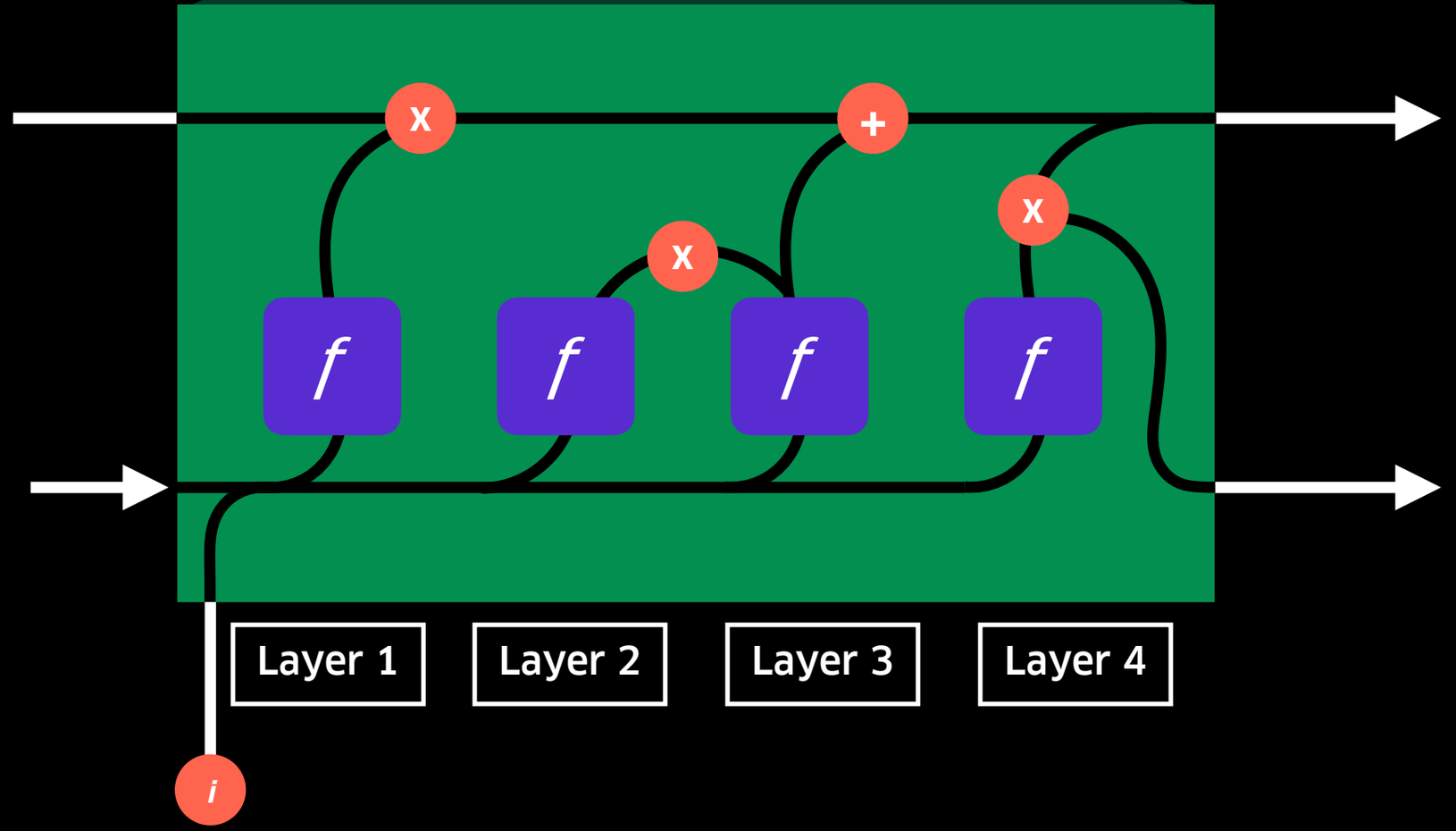
Random Projection SVM





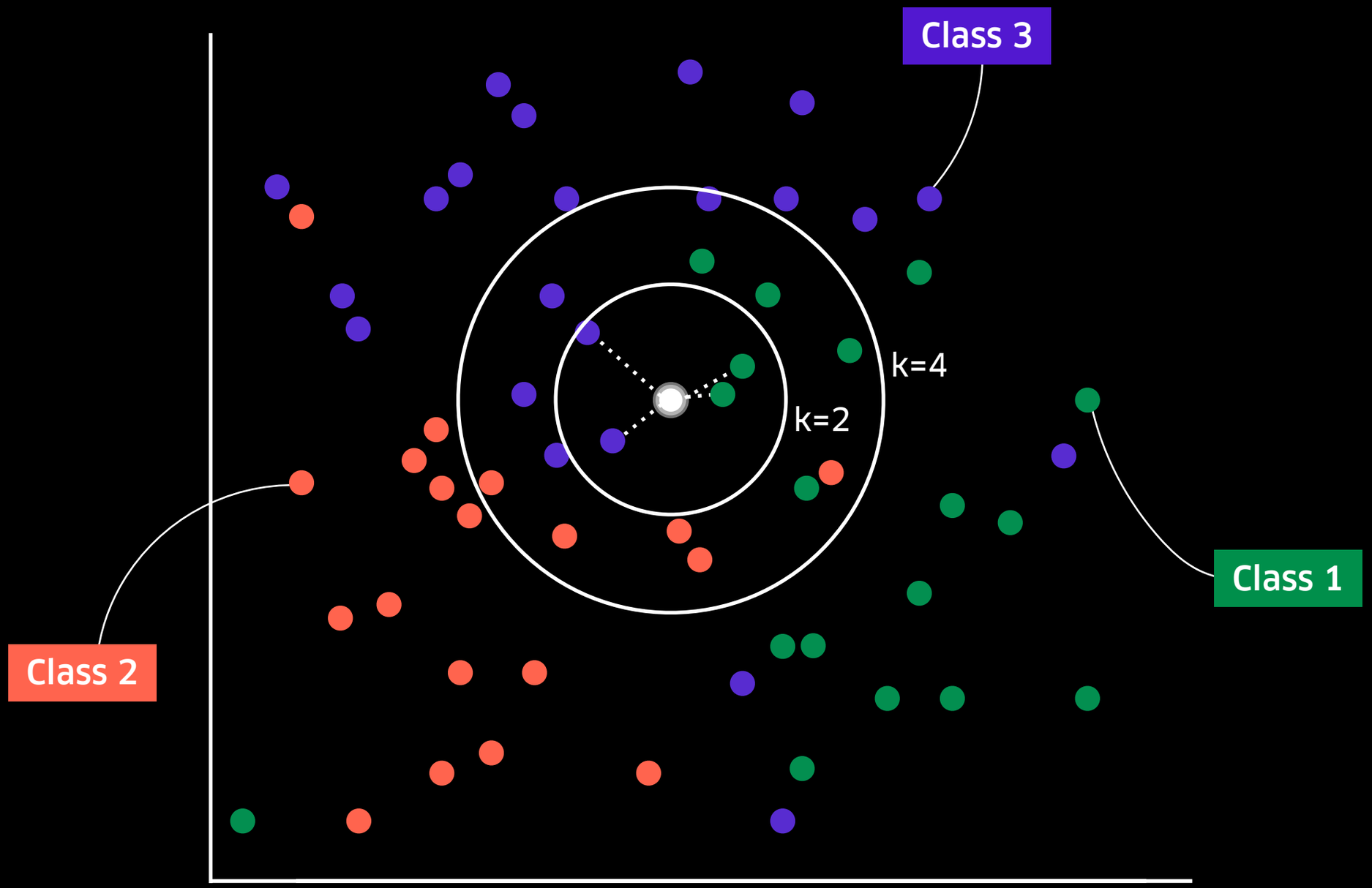
LSTM Long Short-Term Memory





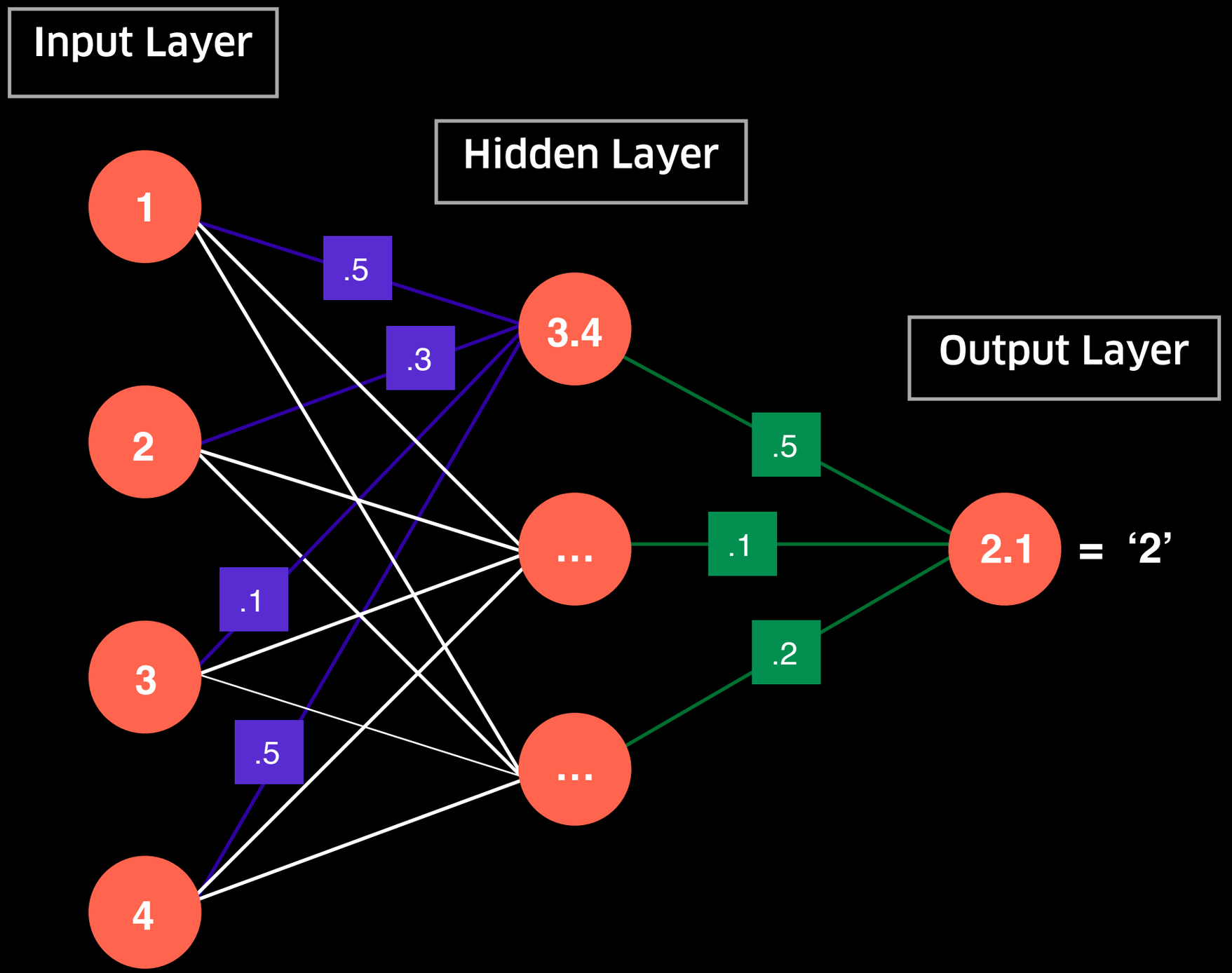
KNN

K-Nearest Neighbor



MLP

Multi-Layer Perceptron



Bayes

Naive Bayes

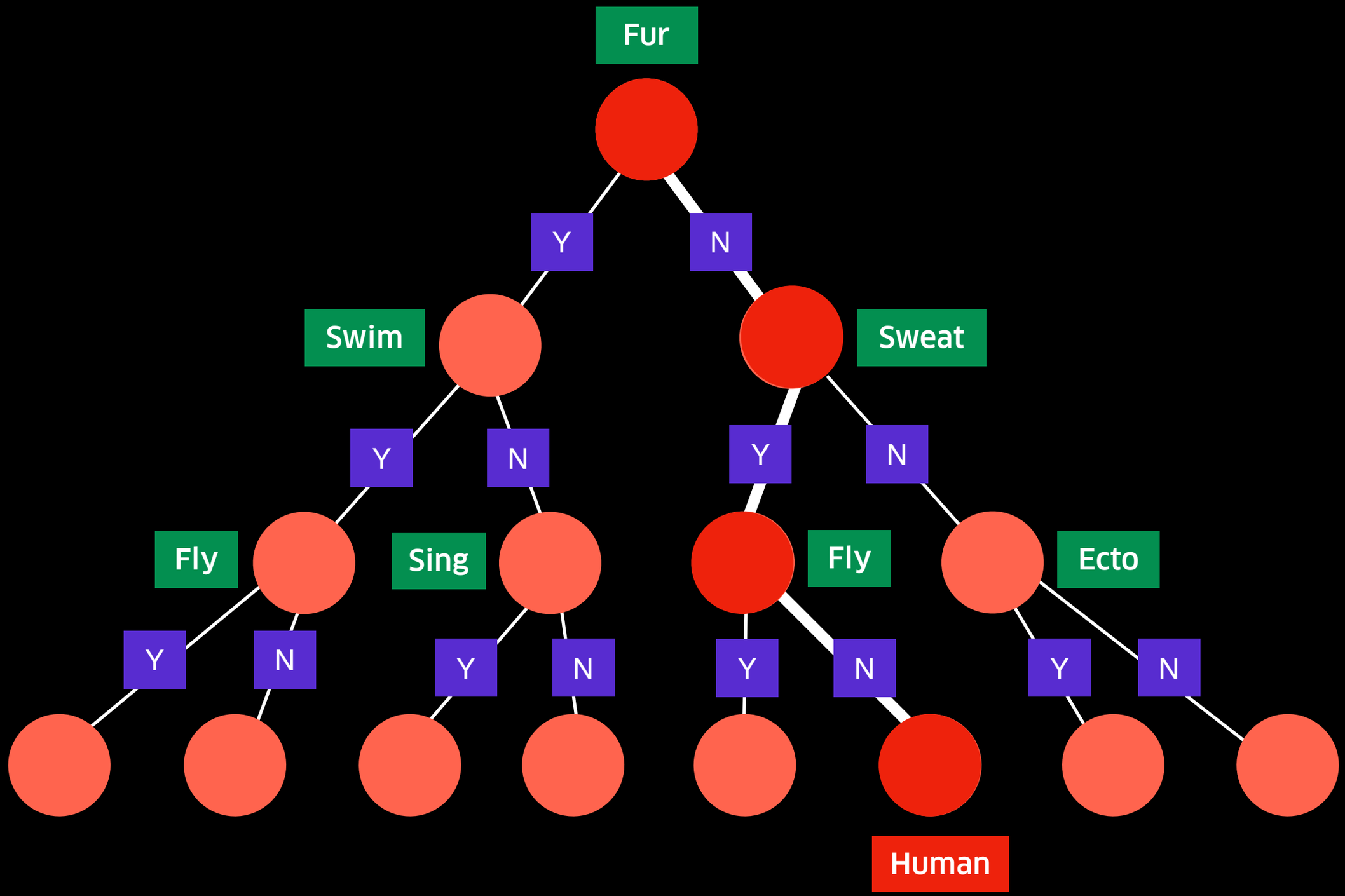
Fur	Swim	Fly	Sweat	Class
Y	Y	N	N	Dog
N	Y	N	Y	Human
N	N	Y	N	Bird
Y	Y	N	N	Monkey
Y	N	N	N	Monkey
N	N	N	N	Bird

P(**Dog** | N Y N Y) = 0.2 P(**Monkey** | N Y N Y) = 0.7

P(**Bird** | N Y N Y) = 0.05P(**Human** | N Y N Y) = **0.98**

Tree

Decision Tree



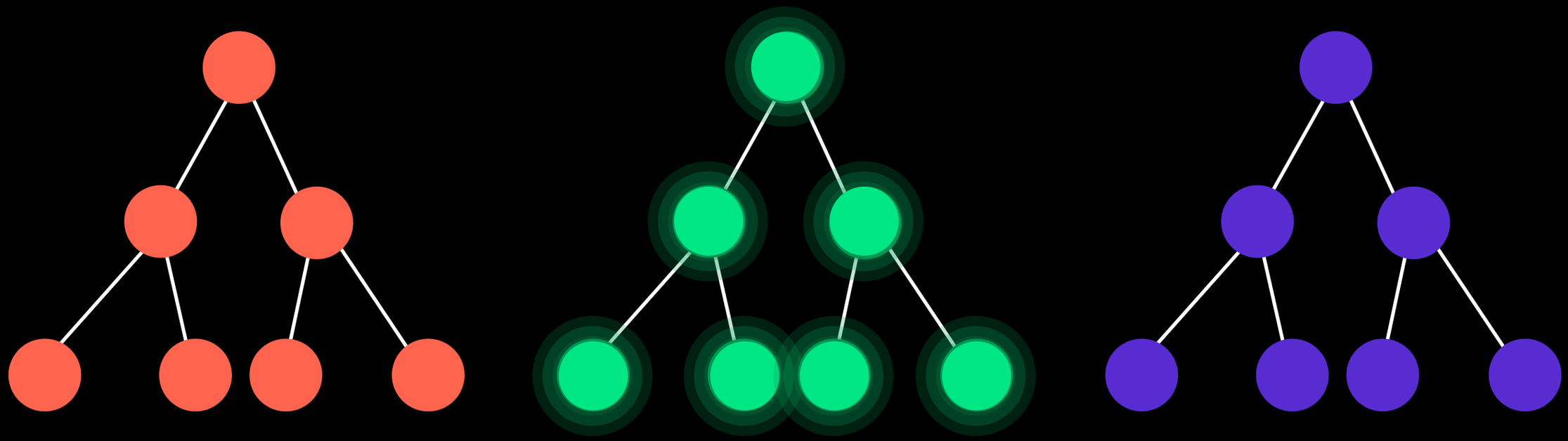
Forest

Random Forest

Decision Tree 1

Decision Tree 2

Decision Tree 3



Model Comparison

	Accuracy		Mean Sq Loss	
	Beer	Juice	Beer	Juice
Random Forest	0.93	1.00	0.11	0.01
Decision Tree	0.88	1.00	0.31	0.02
SVM	0.84	1.00	0.42	0.13
Detour	0.77	0.99	–	–
KNN	0.73	0.99	0.67	0.05
RVM	0.66	0.98	–	–

Model Comparison

	Accuracy		Mean Sq Loss	
	Beer	Juice	Beer	Juice
Stack LSTM	0.64	0.99	0.71	0.03
Logistic Reg	0.62	0.99	0.83	0.06
Naive Bayes	0.59	0.99	0.88	0.07
MLP	0.55	0.94	0.82	0.31
Linear Reg	0.50	0.50	0.28	0.10
1 - CNN	0.25	0.24	0.63	0.42
2 - CNN	0.25	0.17	3.48	–