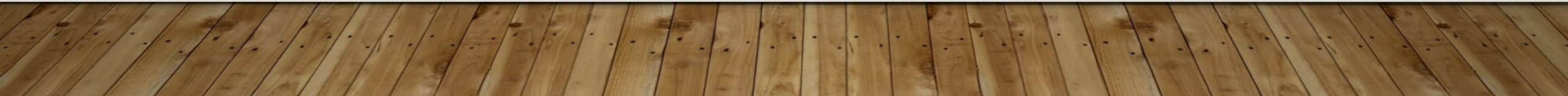
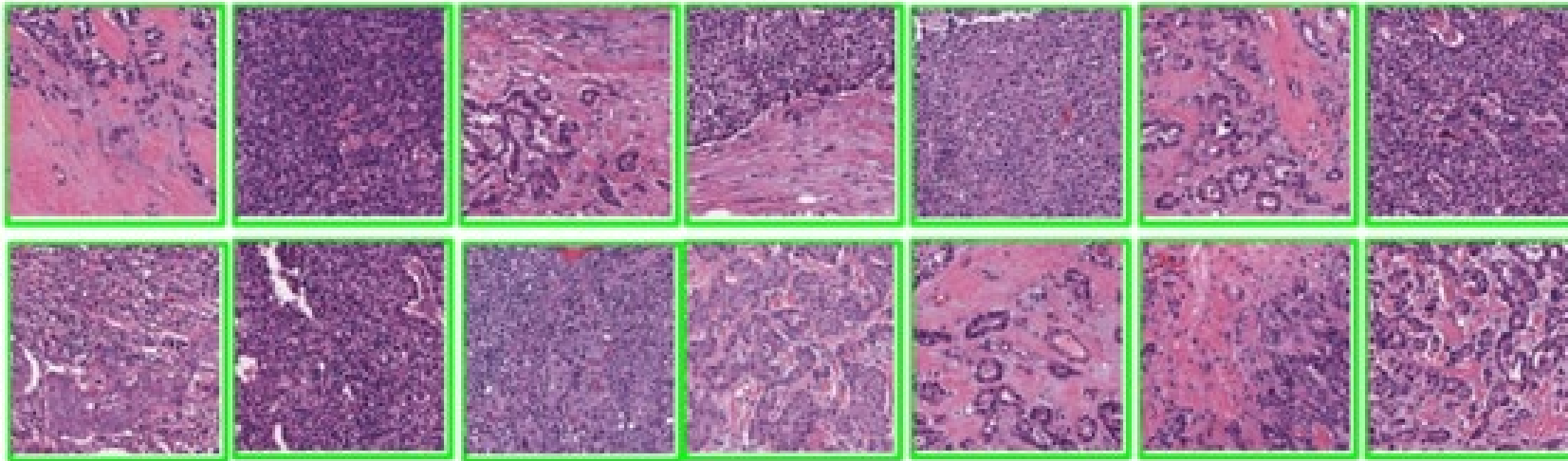


MACHINE LEARNING

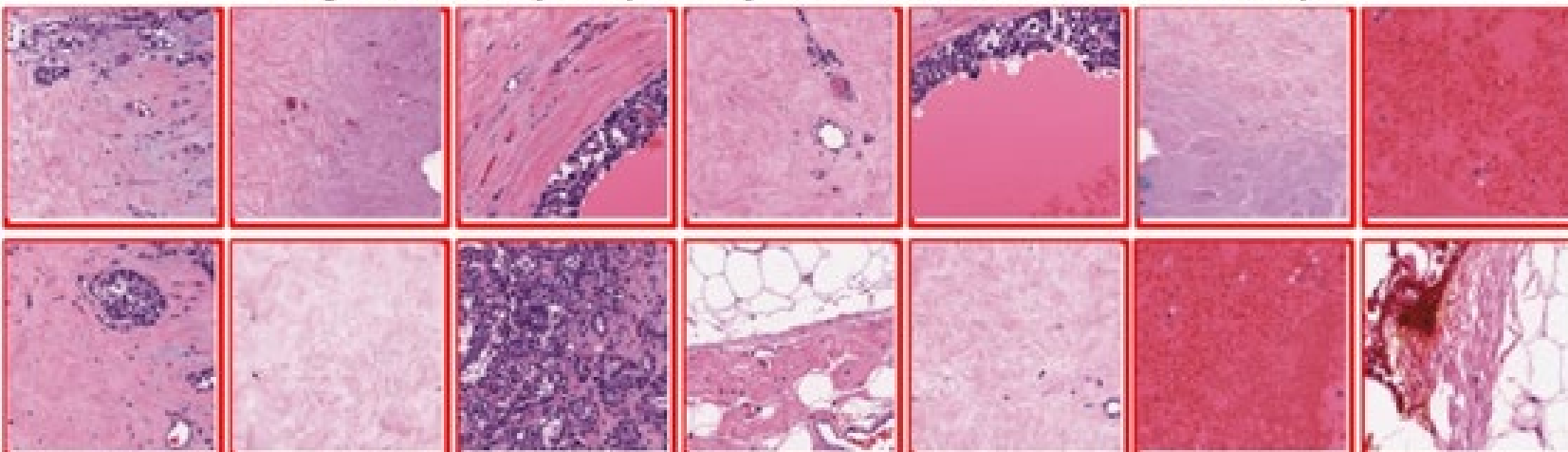


IS THIS CANCER?

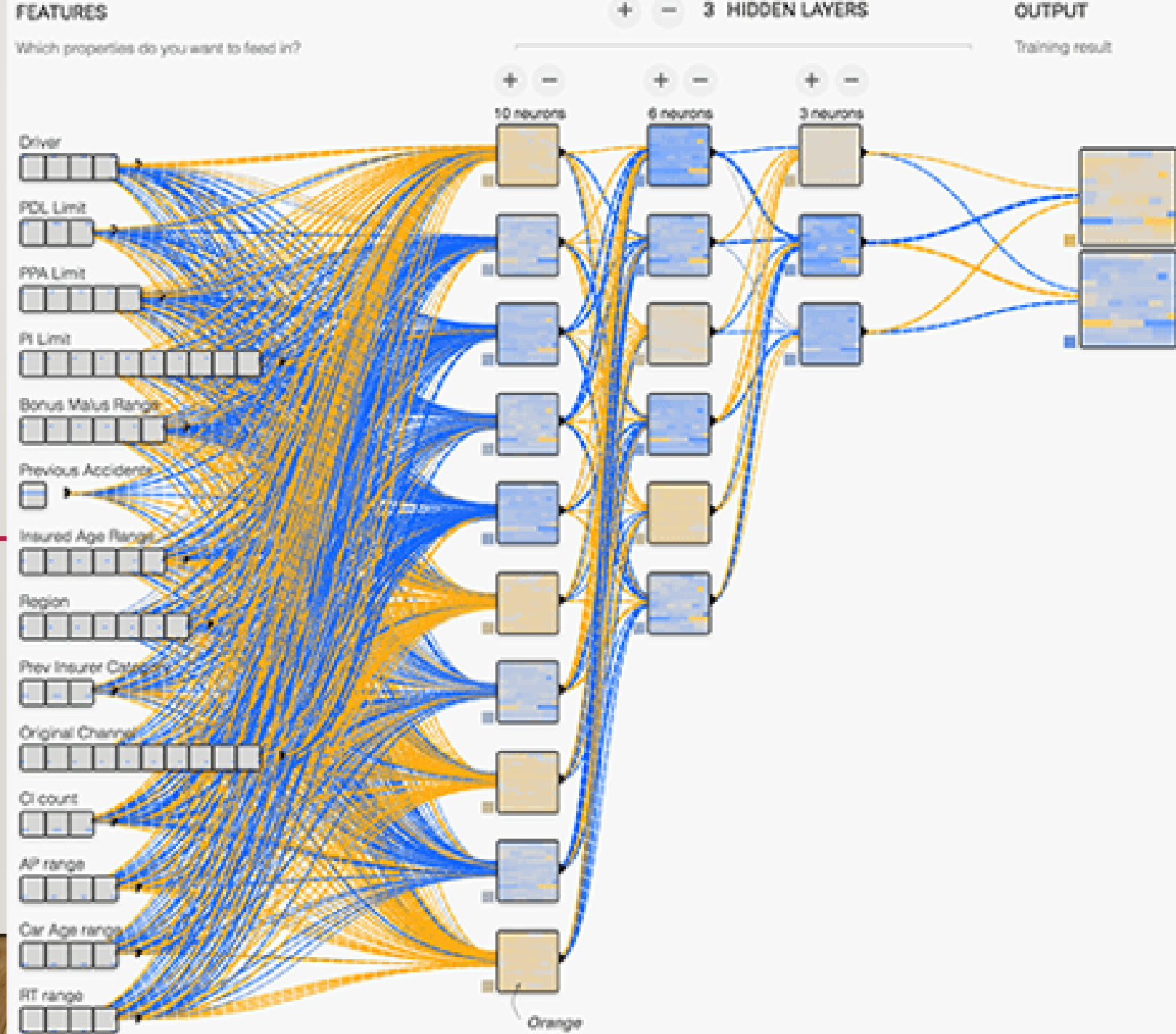
Positive examples (IDC tissues)



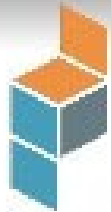
Negative examples (healthy or not invasive tumor tissues)



HOW RISKY IS THIS DRIVER?



WHO'S GOING TO BUY MY PRODUCT?



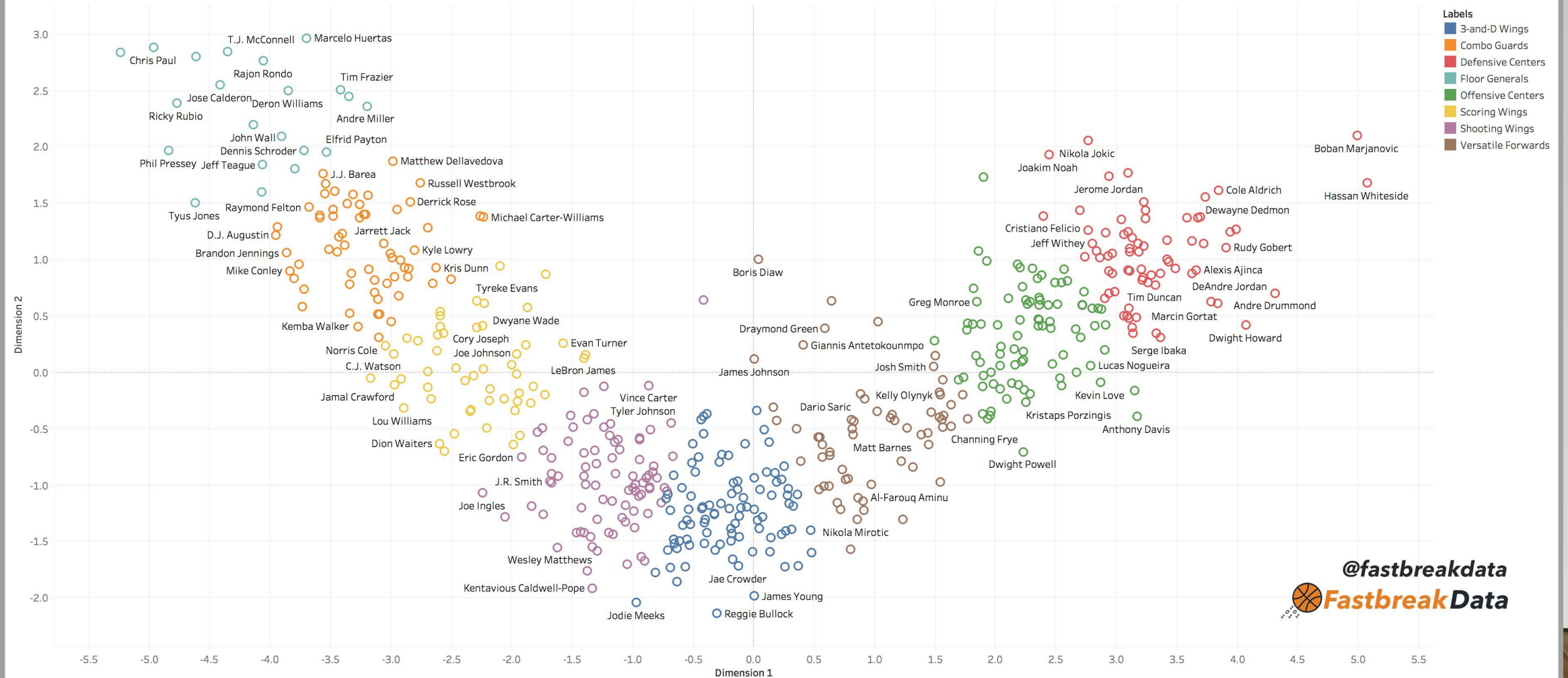
How does it work?

The user journey



IS THIS PLAYER GOING TO EXCEL IN THE NBA?

Classifying the Modern NBA Player (2014-2017)



X1 vs. X2. Color shows details about Labels. The marks are labeled by Player. The data is filtered on Status, which keeps Active and Inactive.

MACHINE LEARNING

- Computerized information systems allow us to capture massive amounts of data.
- Machine learning is using computers to detect patterns and use those patterns to make predictions.

WHAT'S THE KEY?

- We don't tell the computer how to make predictions.
- We give the computer old examples, it figures out how to make predictions itself.



OLD CONCEPTS, NEW APPLICATIONS

- That idea isn't new (how do you predict if a restaurant will be good? If a job is worth applying for? If someone will date you?)
- The scale, breadth, speed, and accuracy are new.

WHAT'S THIS DEEP LEARNING BIT?

- Deep Learning uses neural networks – one type of algorithm of machine learning.
- The DL algorithm can be replaced with linear regression, trees, or any other algorithm and the concepts are the same.

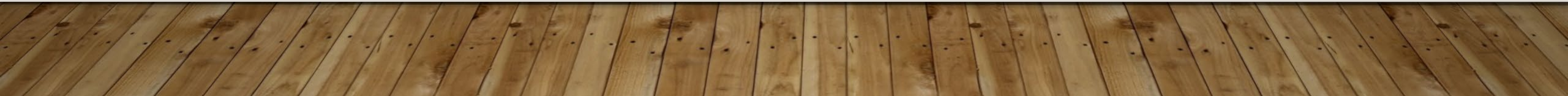
THE PROCESS IS SIMPLE

- 1 – Collect data on what we care about.
- 2 – ‘Clean’ that data up.
- 3 – Give the data to the algorithm to learn.
- 4 – Let the model generated from the algorithm make new predictions.

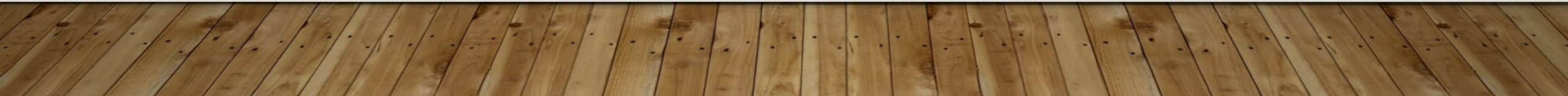
WHAT ARE WE GOING TO DO...

- Build several types of models using different algorithms.
- Apply these models in different types of predictions...

DATA FOR MODELLING



MODELS AND ALGORITHMS



MODEL FITTING

