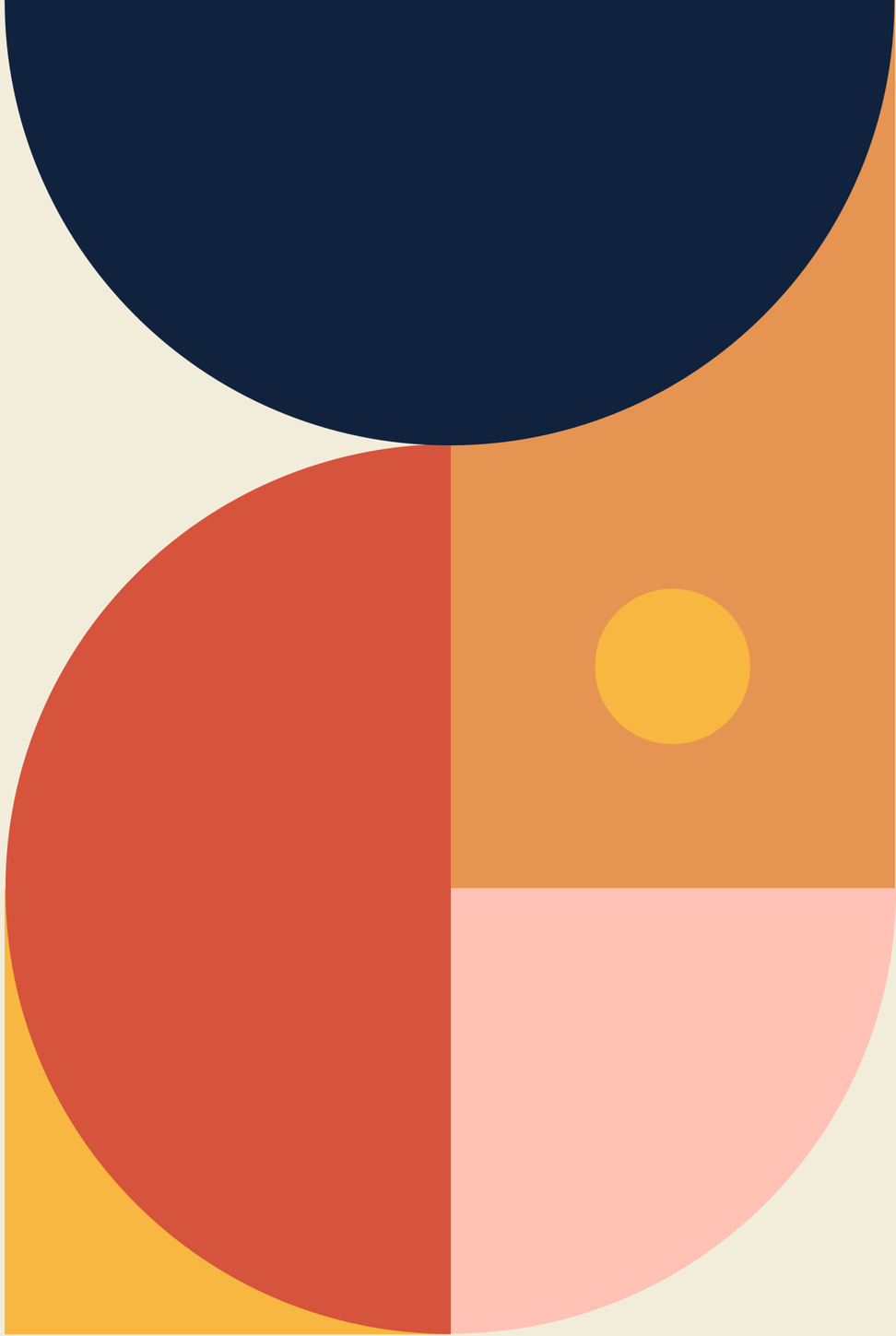
GRAPH DATA @ ING

Team : GRAPH-ING

Uncover Hidden Connections

01

IS DATA THE NEW OIL ?



01

IS DATA THE NEW OIL ?

The Economist

The world’s most valuable resource is no longer oil, but data

02

SHOULD WE USE ALL DATA AT HAND FOR CREATING VALUE ?

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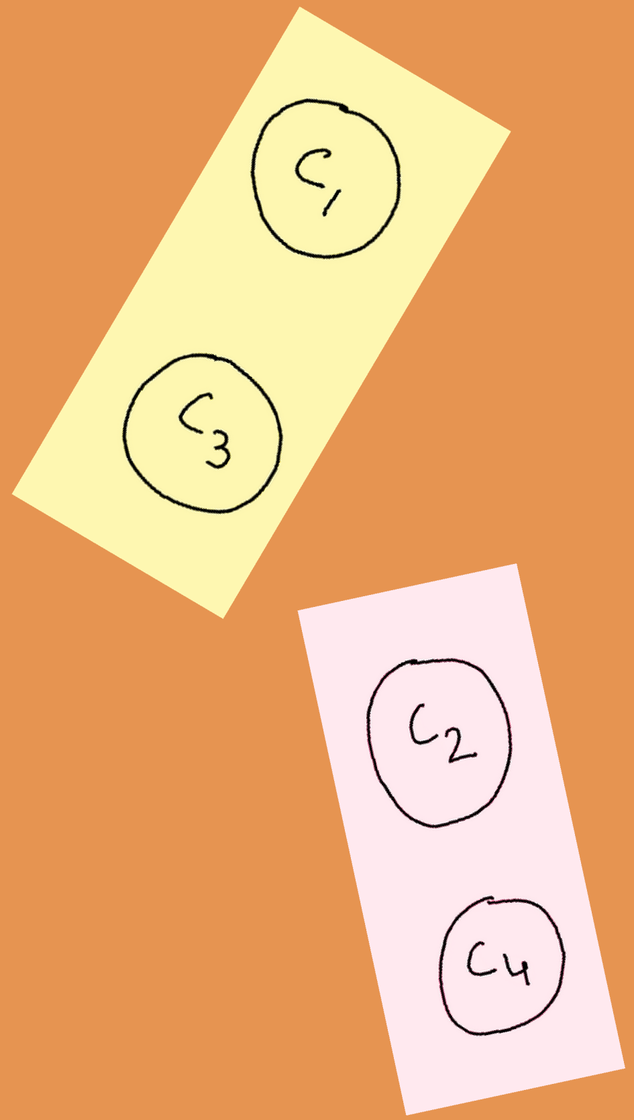
Humby's quote: "Data is just like crude. It's valuable, but if unrefined it cannot really be used. It has to be changed into gas, plastic, chemicals, etc to create a valuable entity that drives profitable activity; so must data be broken down, analysed for it to have value."

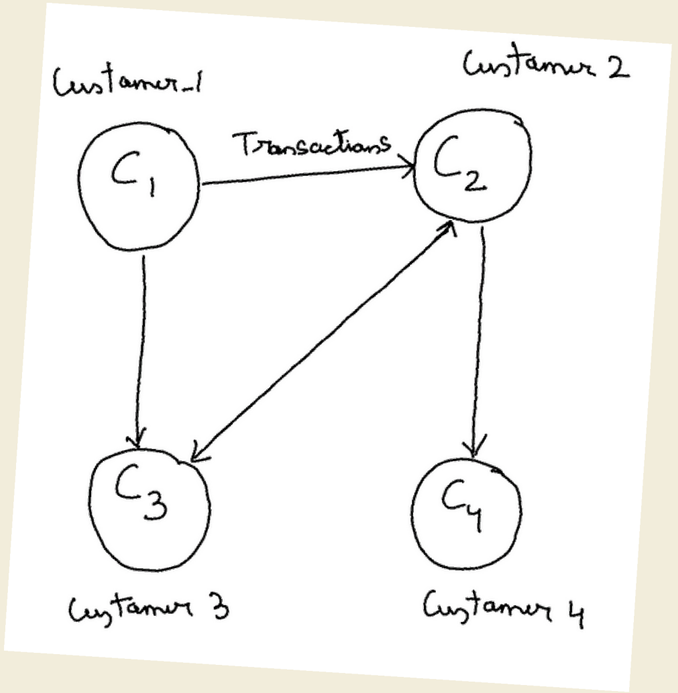
“SILOED” DATA FOR MODELLING

Each cusomer characteristics is considered individually without taking **“connections”** into consideration.



03 DATA @ ING CAN BE REPRESENTED AS A GRAPH

E.g Customers transacting with each other (tikke, transfer requests) can be node connected via a transaction weighted graph.

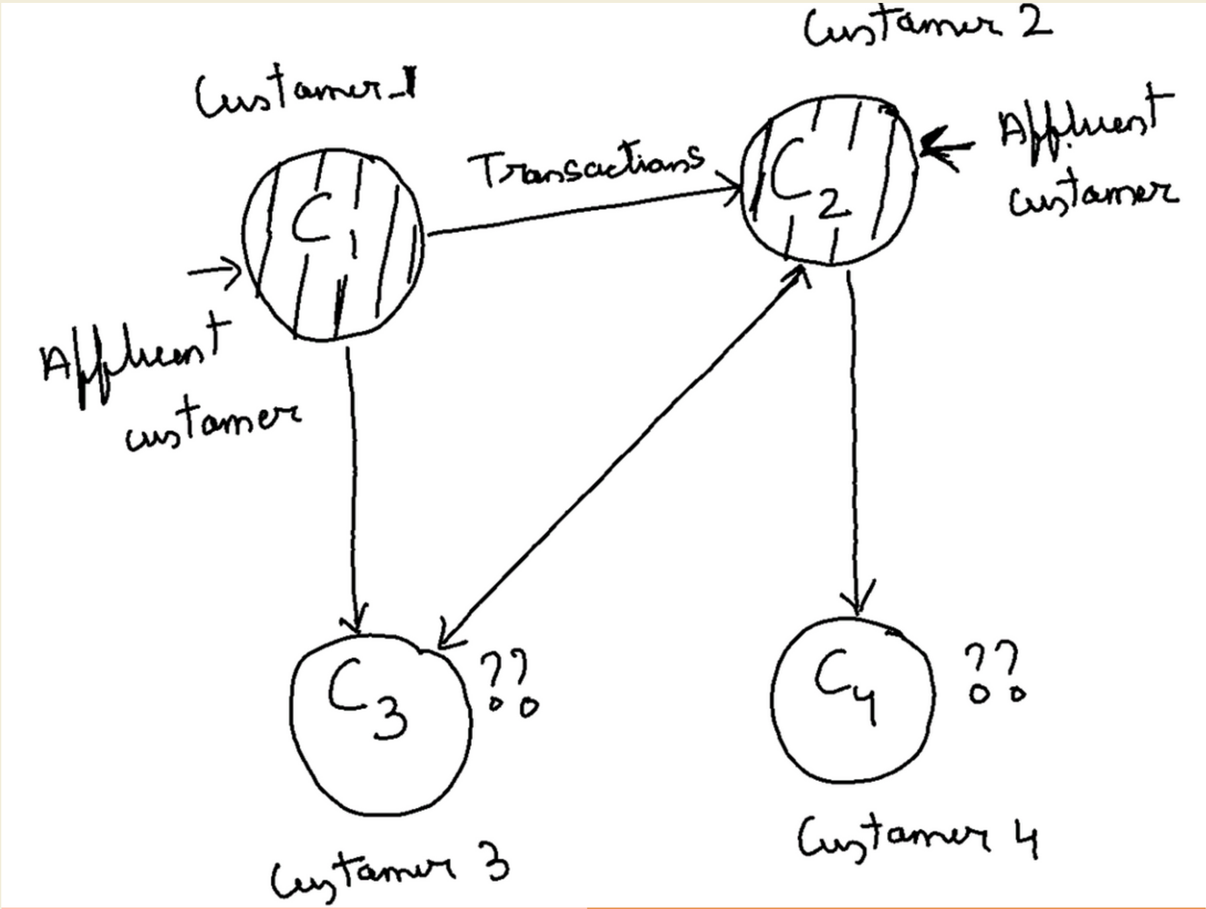


04

CAN REVEAL HIDDEN PATTERNS

E.g

- **Affluent customers** interact with other **affluent customers** .
- If you friends are **ING Primary customer**, you are more likely to become a primary customer



04

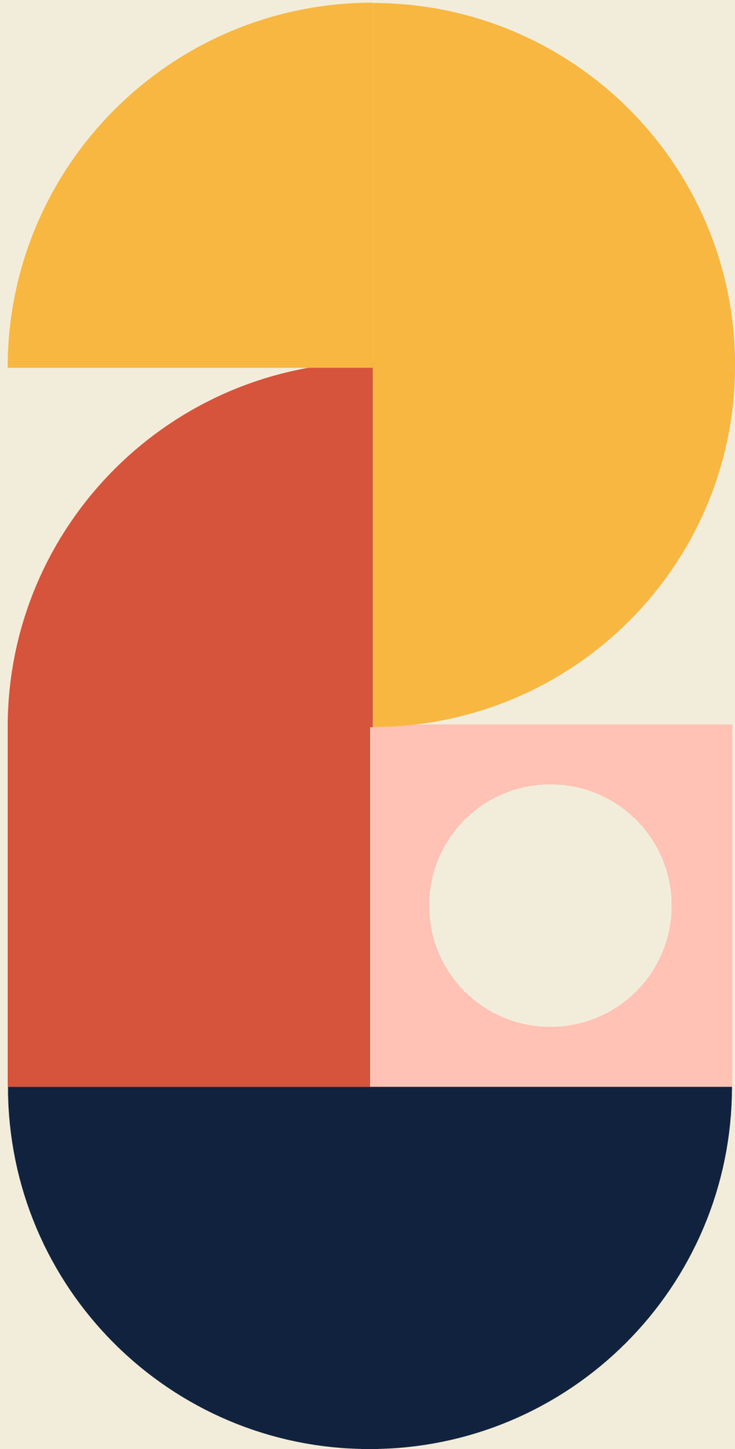
ADDING GRAPH FEATURES IMPROVES MODEL PERFORMANCE

- Used a Kaggle Bitcoin transactions dataset to check model performance without and with graph features like centrality,connectedness etc
- Model **with Graph features (ROC AUC 0.91)** performed better than **non graph features (ROC AUC 0.88)**

05 GRAPH DATA @ ING

Potential Usecases :

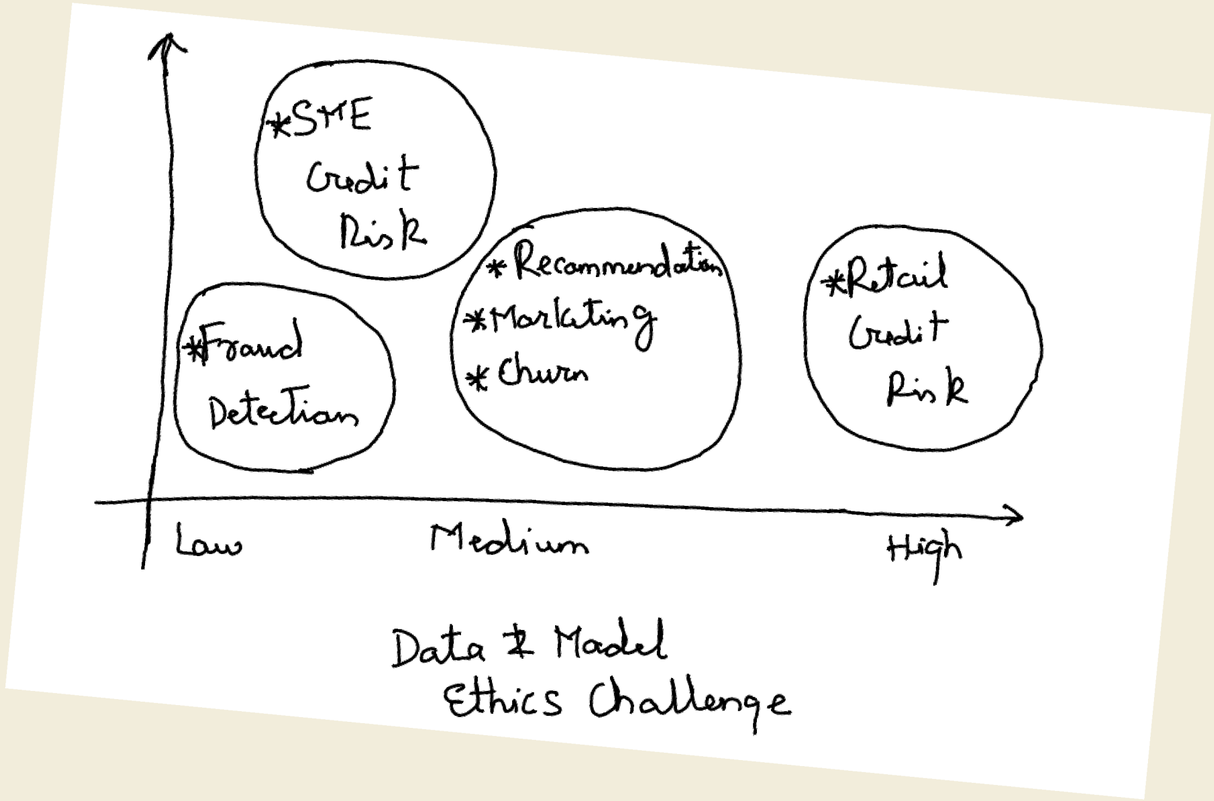
- Create graphs of customer (as nodes) connected to other customers via transactions (edges) .
- Use this information to predict **X** customers (**Node prediction**).
- Detect group of **X** customers (**sub-graph detection**).
- Use features based on graphs for other modelling purposes.



06

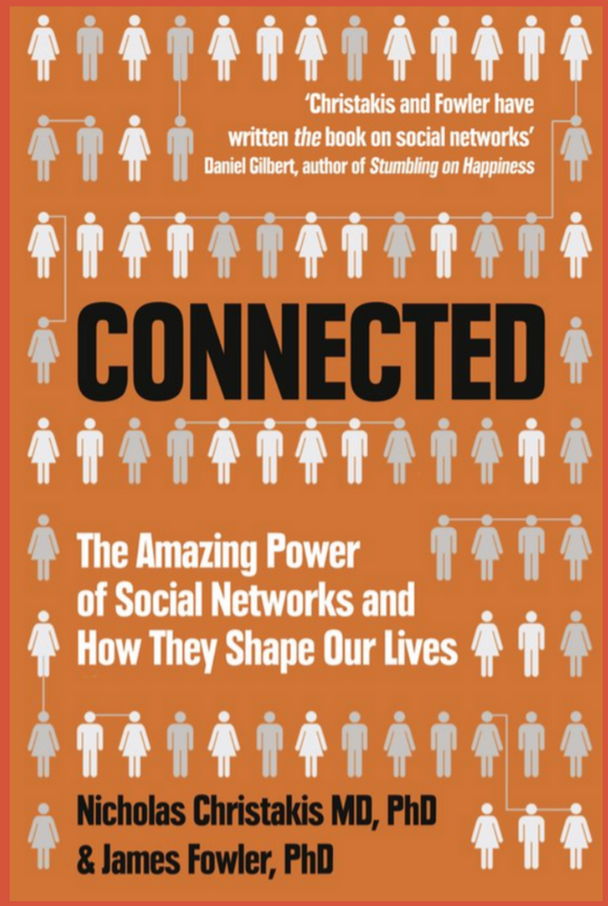
THERE IS NO FREE LUNCH

- Accessing & processing huge amounts of data can be a challenge.
- Creating customer graphs can be a challenge due to incomplete information.
- Only close relationships matter, identifying them can be challenge.
- Ethics/ Data usage can be a concern.



“Human beings as a superorganism, with social networks exhibiting collective properties beyond individual traits.”

- Create graphs
- Use graph features
- Thank team GRAPH-ING later 😛



07

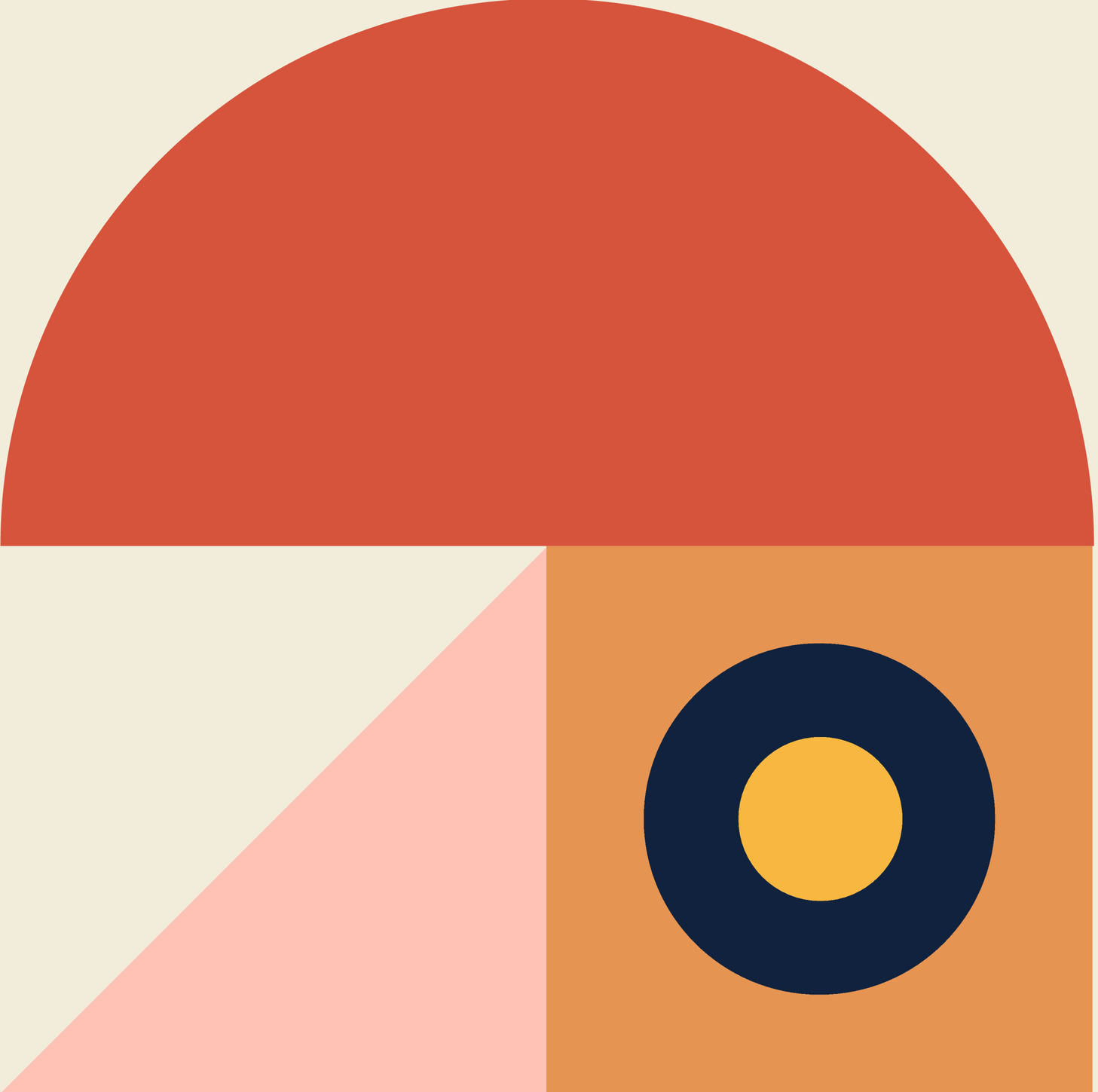
GET HELP FROM ONLINE LEARNING RESOURCES.

There are a ton of learning websites that offer printable worksheets, activities, quizzes, and more.

Take advantage of these materials available to you to make homeschooling manageable on your end.

HOMESCHOOLING IS POSSIBLE EVEN IF IT DOESN'T FEEL LIKE IT FOR THE FIRST FEW WEEKS OR MONTHS.

PRETTY SOON YOU AND YOUR CHILD WILL ADAPT TO THE BEAUTIFUL LIFE OF HOMESCHOOLING.



The freedom of educating your child in a way that works best with your family's schedule and the values that resonate with your heart are priceless.