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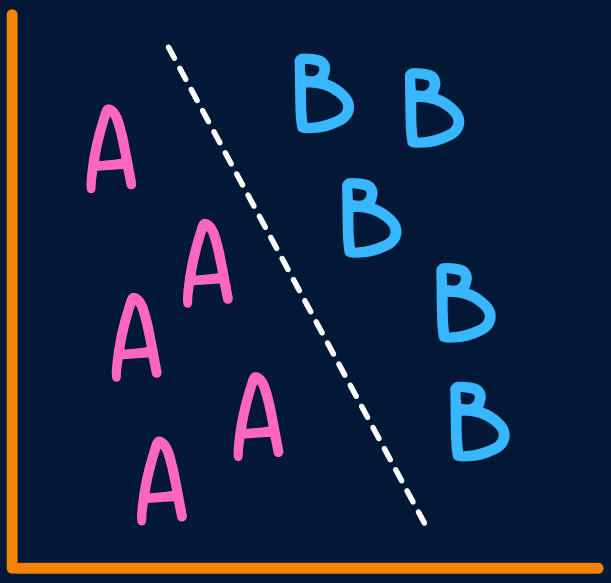
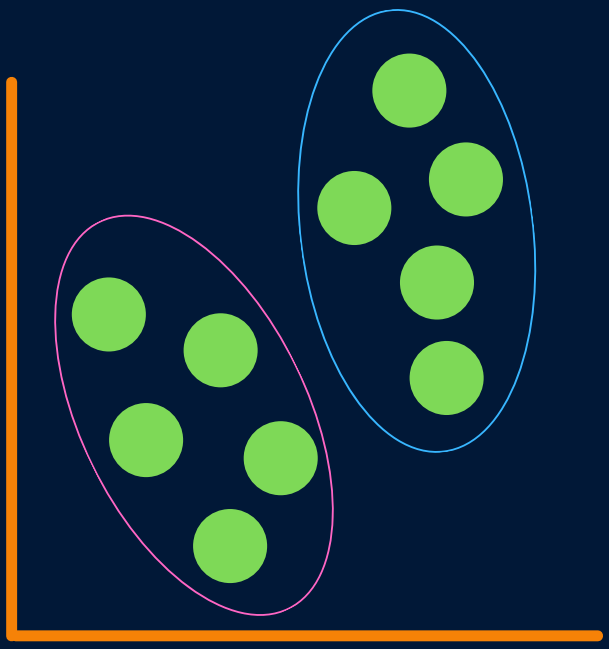
Supervised Learning



VS



Unsupervised Learning

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Supervised Learning and **Unsupervised Learning** are essentially just two broad areas within Machine Learning that are applied to solve tasks with slightly different end-goals

It is important to understand the difference, as well as which algorithms are useful for tasks that fall into each area

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SUPERVISED LEARNING

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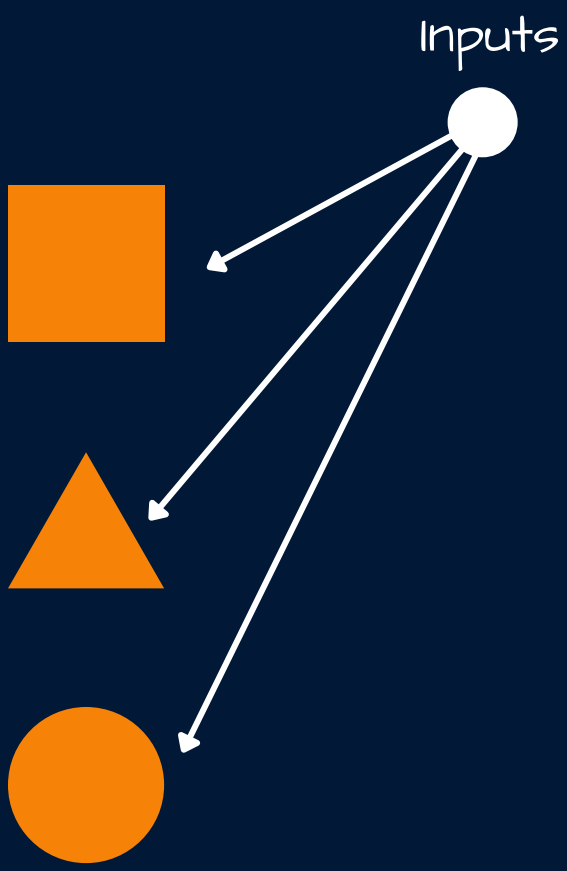
SUPERVISED LEARNING

In Supervised Learning, we have **input data**...



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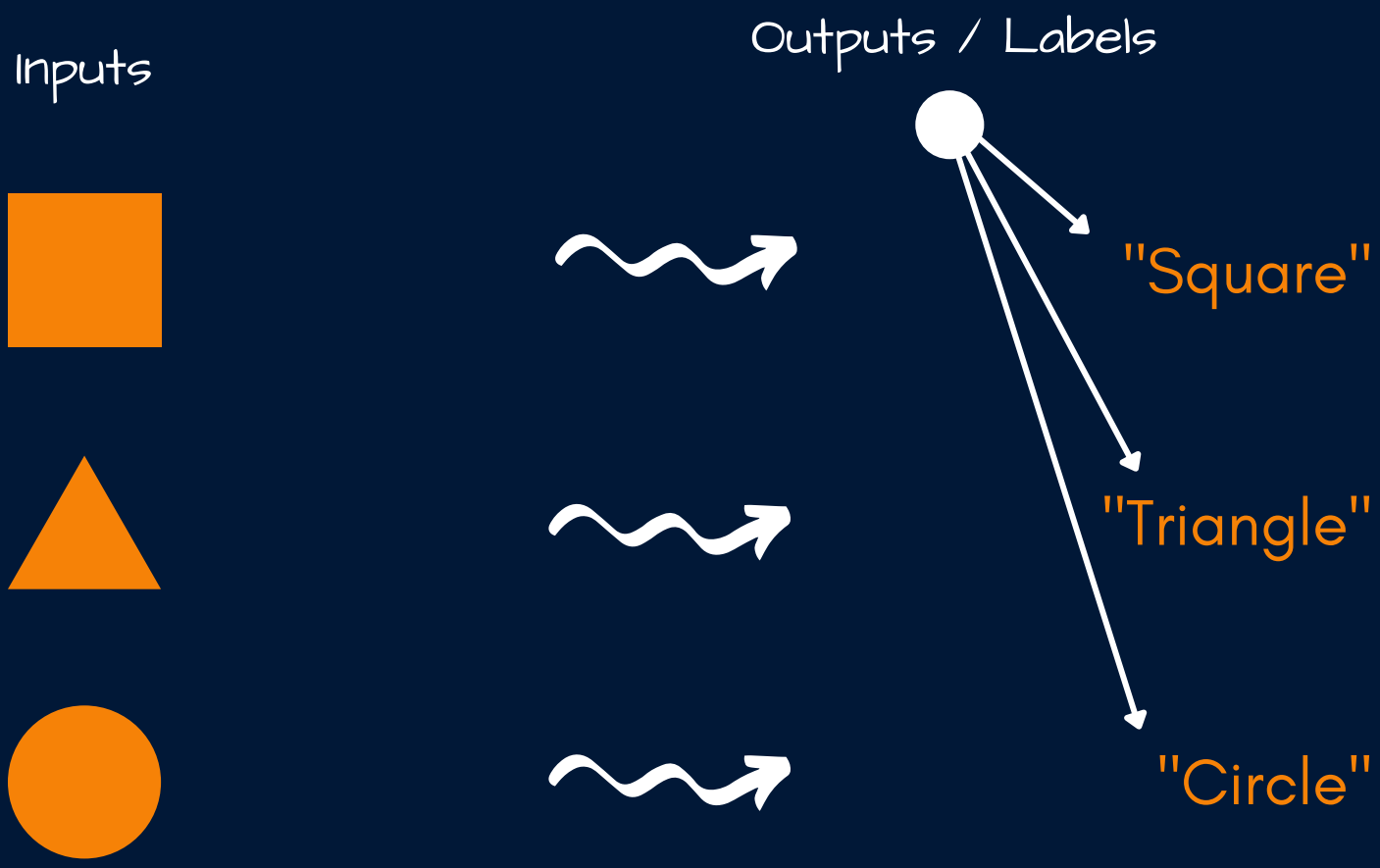
and we have **output data**...



This output data is **known**, or **labelled**. A supervised Machine Learning algorithm looks to find generalised relationships that link the input data to the output data...

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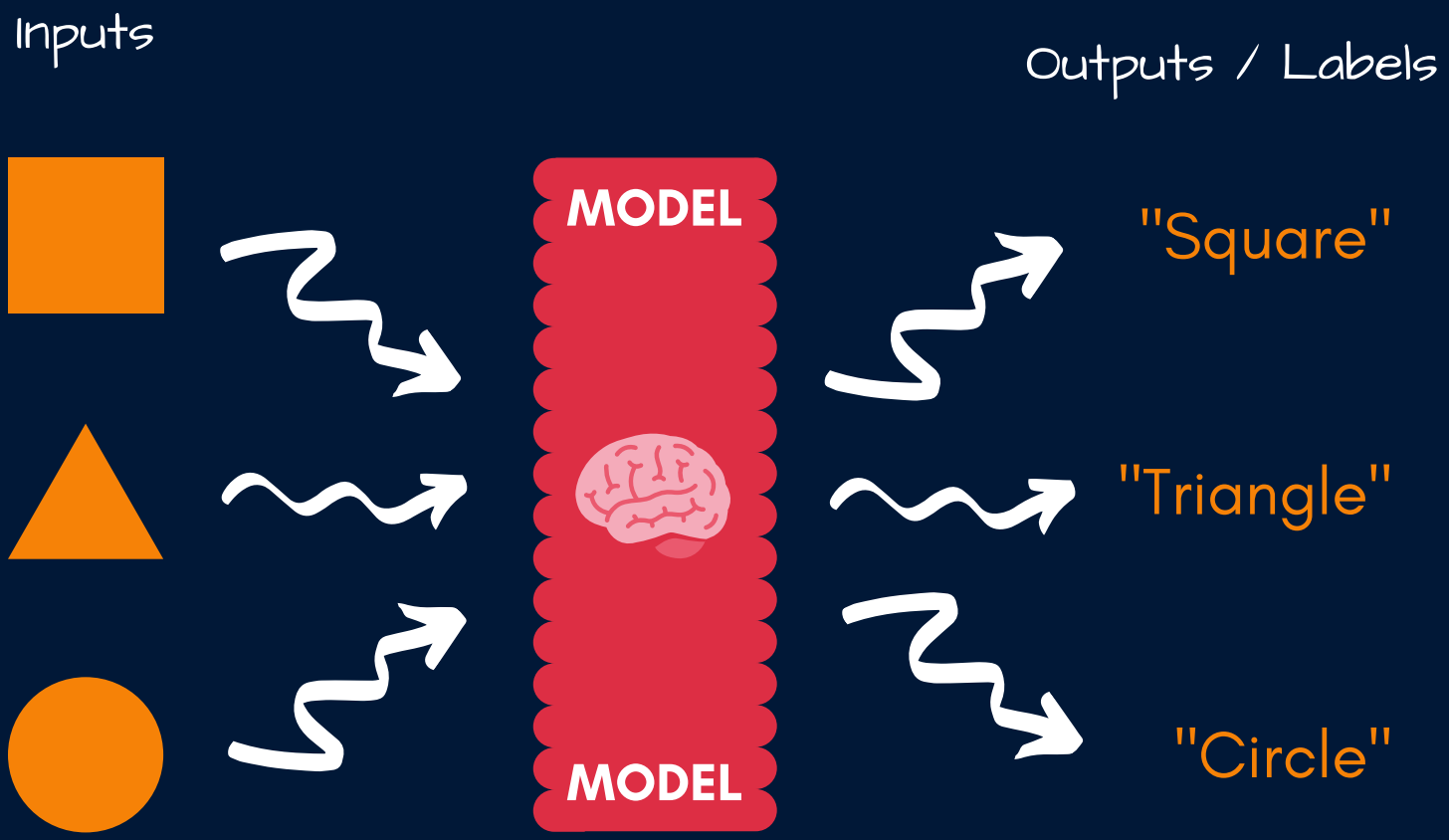
We save these relationships as a **model...**



...meaning that when we are presented with...

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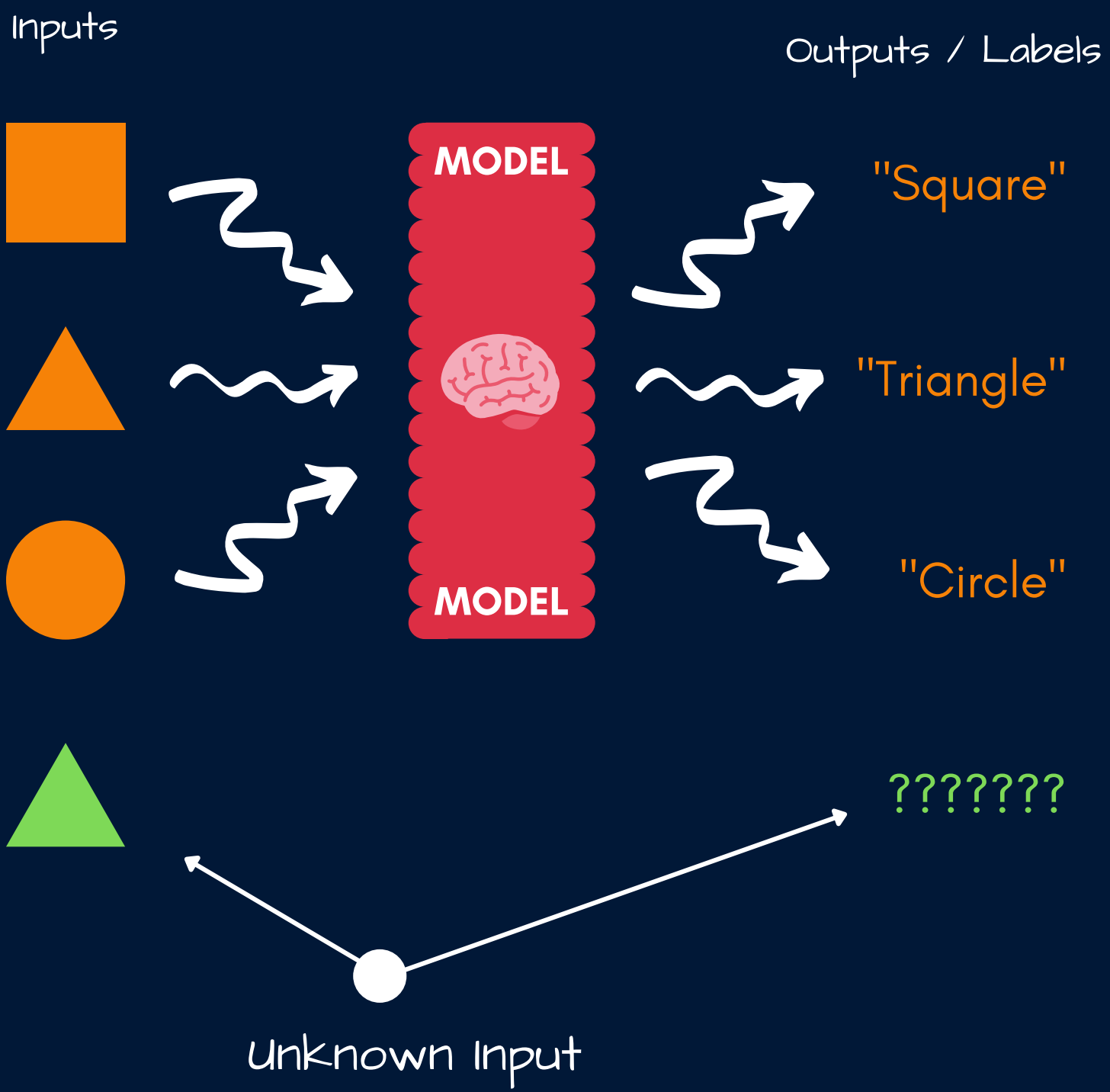
...an **unknown input** in the future...



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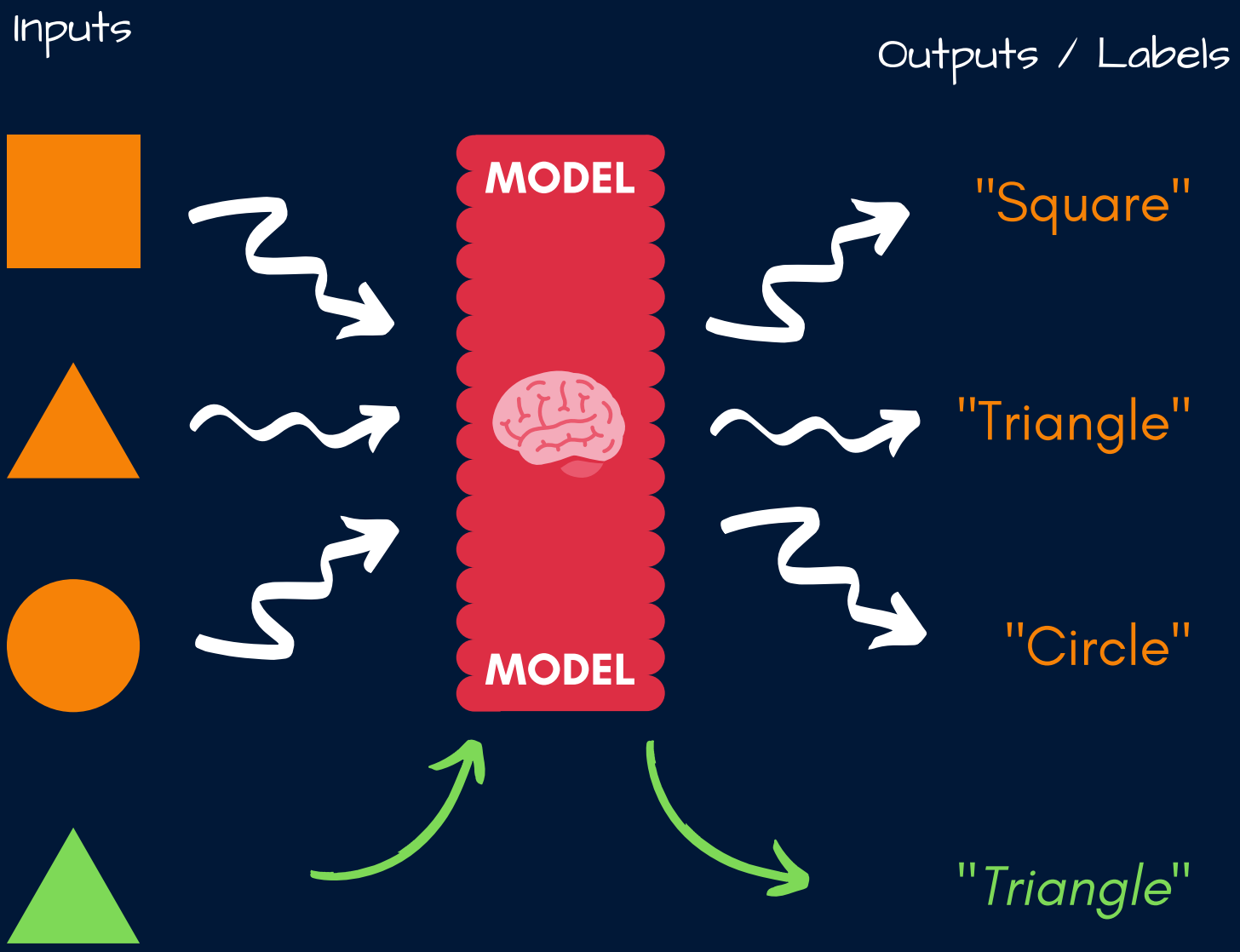
...the model can assess the input, apply what it has learned...



...and provide a **prediction** of what the output might be!

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Supervised Learning will commonly be applied to **Regression** tasks (predicting a number) or **Classification** tasks (predicting a label or type)

Examples of these algorithms are **Linear Regression**, **Logistic Regression**, **Decision Trees** & **Random Forests**. Artificial & Convolutional **Neural Networks** are also often applied to Supervised Learning tasks!

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UNSUPERVISED LEARNING

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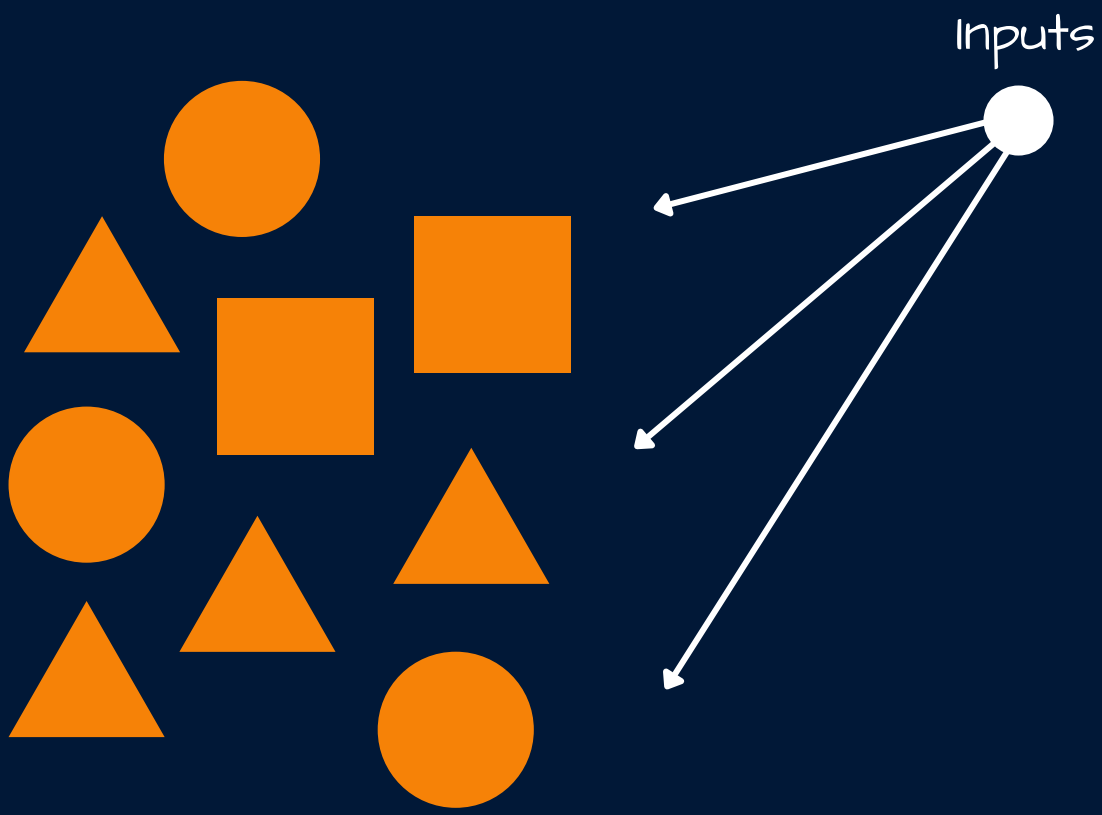
UNSUPERVISED LEARNING

In Unsupervised Learning, we essentially **just have input data** - nothing is pre-labelled!



The goal in this scenario is for the algorithm to find...

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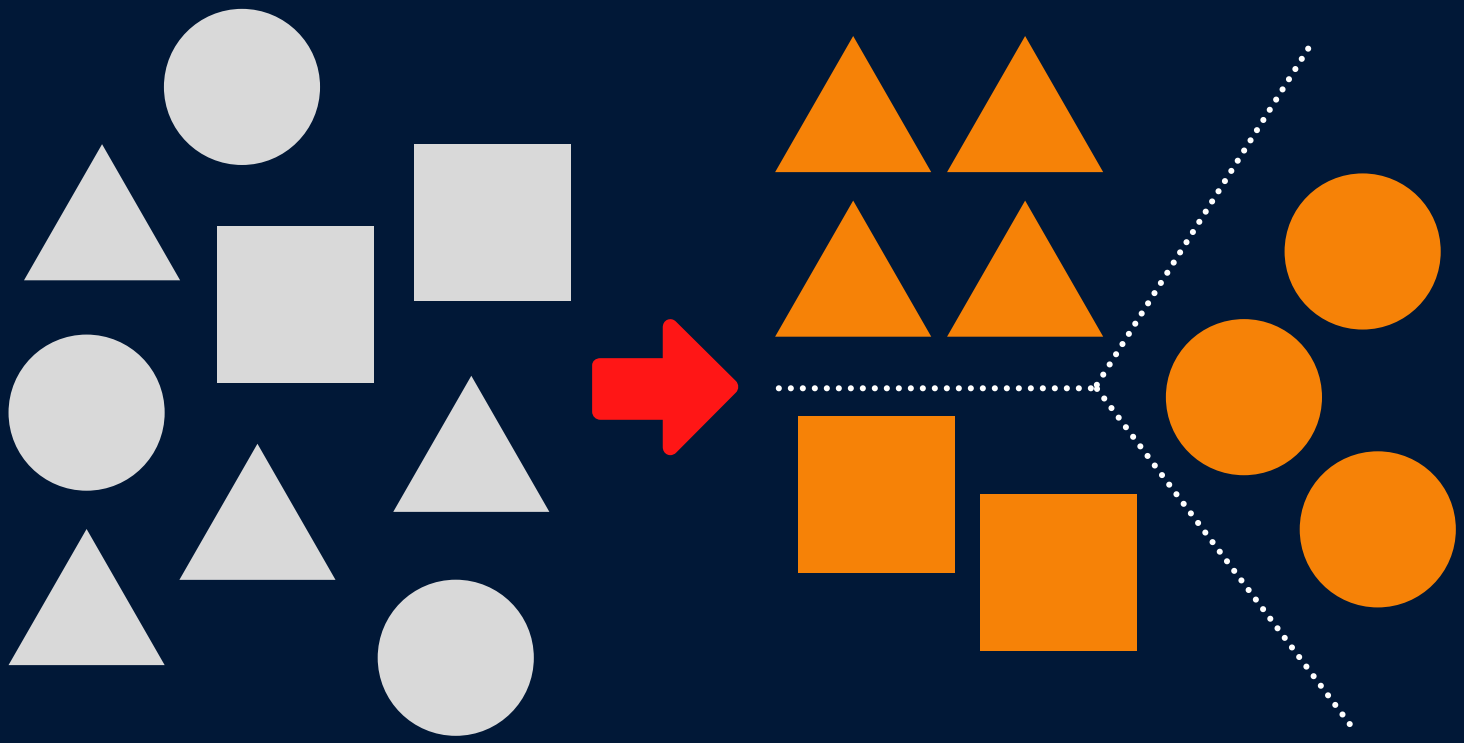
...hidden structures and patterns in the data...



...often based upon how similar or dissimilar data-points are to each other.

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Unsupervised Learning will commonly be applied for **Clustering**, **Dimensionality Reduction**, or **Association** tasks

Examples of these algorithms are **k-means**, **DBSCAN**, **Apriori**, and **Principal Component Analysis**!

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Taught by former Amazon & Sony PlayStation Data Scientist **Andrew Jones**

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- Ritesh

"The **best program** I've been a part of, hands down"

- Christian

"DSI is **incredible** - everything is taught in such a clear and simple way, even the more complex concepts!"

- Arianna

"**I got it!** Thank you so much for all your advice & help with preparation - it truly gave me the **confidence to go in and land the job!**"

- Marta

"I've taken a number of Data Science courses, and without doubt, DSI is the best"

- William

"One of the best purchases towards learning I have ever made"

- Scott

"I learned more than on any other course, or reading entire books!"

- Erick

"I started a bootcamp last summer through a well respected University, but I didn't learn half as much from them!"

- GA

"100% worth it, it is amazing. I have never seen such a good course and I have done plenty of them!"

- Khatuna

"This is a world-class Data Science experience. I would recommend this course to every aspiring or professional Data Scientist"

- David

"Andrew's guidance with my Resume & throughout the interview process helped me land my amazing new role (and at a much higher salary than I expected!)"

- Barun

"DSI is a fantastic community & Andrew is one of the best instructors!"

- Keith

"I'm now at University, and my Data Science related subjects are a piece of cake after completing this course!

I'm so glad I enrolled!"

- Jose

"In addition to the great content, Andrew's dedication to the growing DSI community is amazing"

- Sophie

"The course has such high quality content - you get your ROI even from the first module"

- Donabel

"The Statistics 101 section was awesome! I have now started to get confidence in Statistics!"

- Shrikant

"I can't emphasise how good this programme is...well worth the investment!"

- Dejan

"I'd completed my Master's in Business Analytics, but DSI was the first time I felt I had a solid foundation in Data Science to go forward with"

- Scott

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