

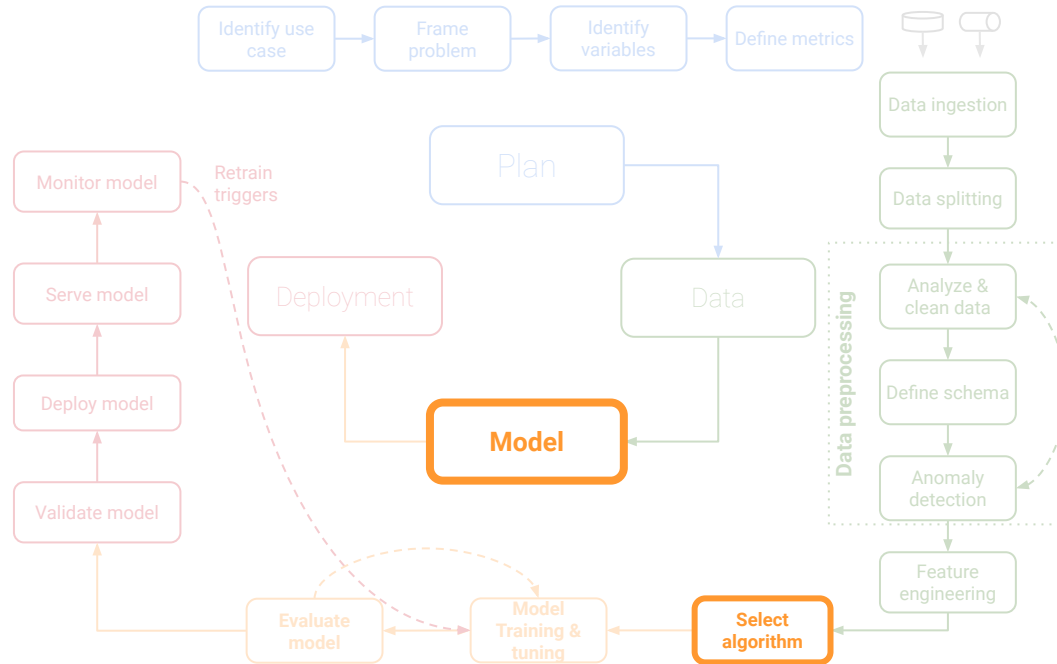
# Algorithms

Supervised & Unsupervised learning  
algorithms

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HdM Stuttgart

# Data Science Lifecycle

Plan | Data | **Model** | Deployment



What types of algorithms can we use?

# Types of models (algorithms)

# Is this A or B?

## Predicting **categories** (two-class or multi-class)

Type of ML Problem	Description	Example
Classification	Pick one of N labels	Cat, dog, horse, or bear
Regression	Predict numerical values	Click-through rate
Clustering	Group similar examples	Most relevant documents (unsupervised)
Association rule learning	Infer likely association patterns in data	If you buy hamburger buns, you're likely to buy hamburgers (unsupervised)

# How much -or- how many?

## Predicting **numerical values**

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Clustering	Group similar examples	Most relevant documents (unsupervised)
Association rule learning	Infer likely association patterns in data	If you buy hamburger buns, you're likely to buy hamburgers (unsupervised)

# How is this organized?

## Discovering **structure**

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# Are there relationships between variables?

## Identify strong **rules**

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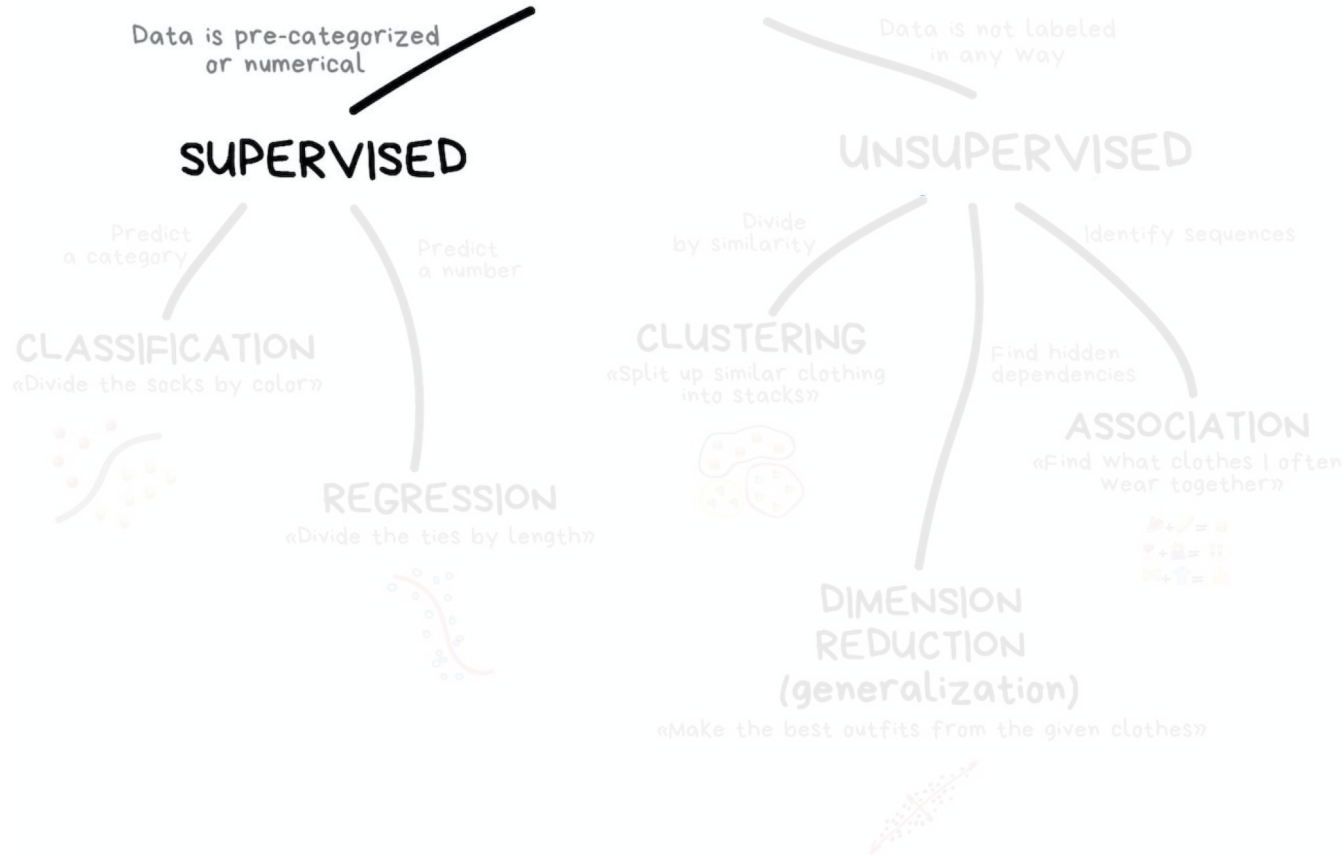
# Types of models we will cover in this course

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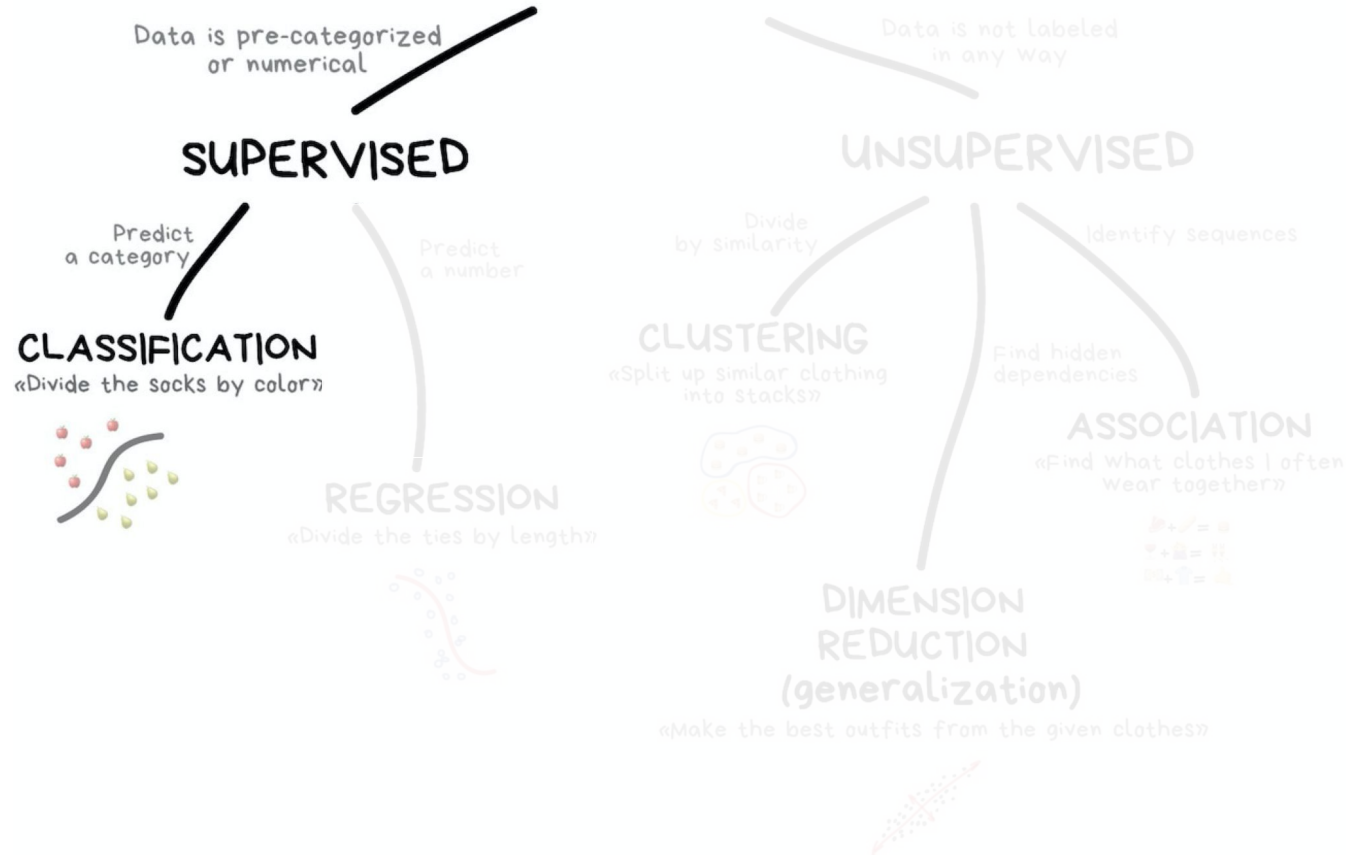


# Model categorization

# Models



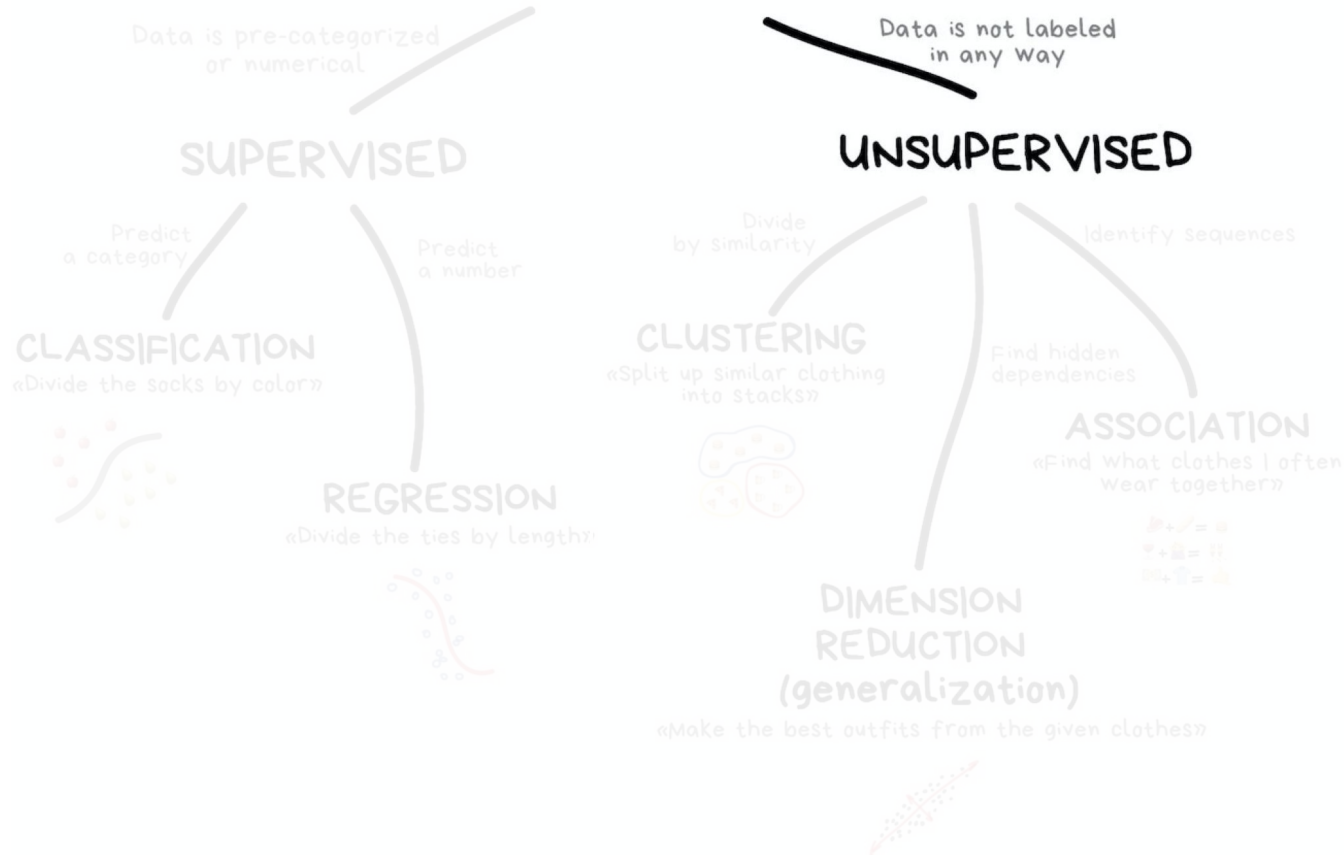
# Models



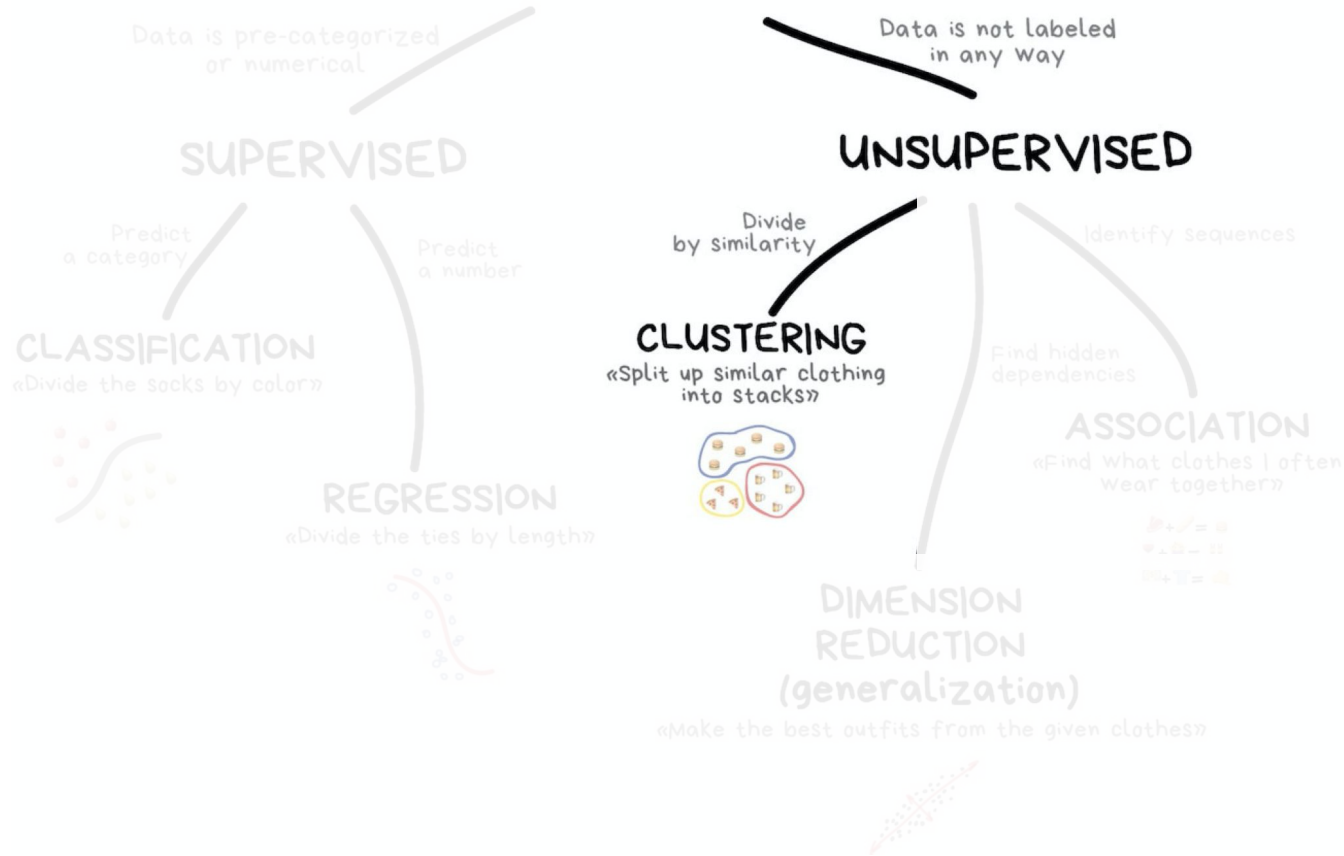
# Models



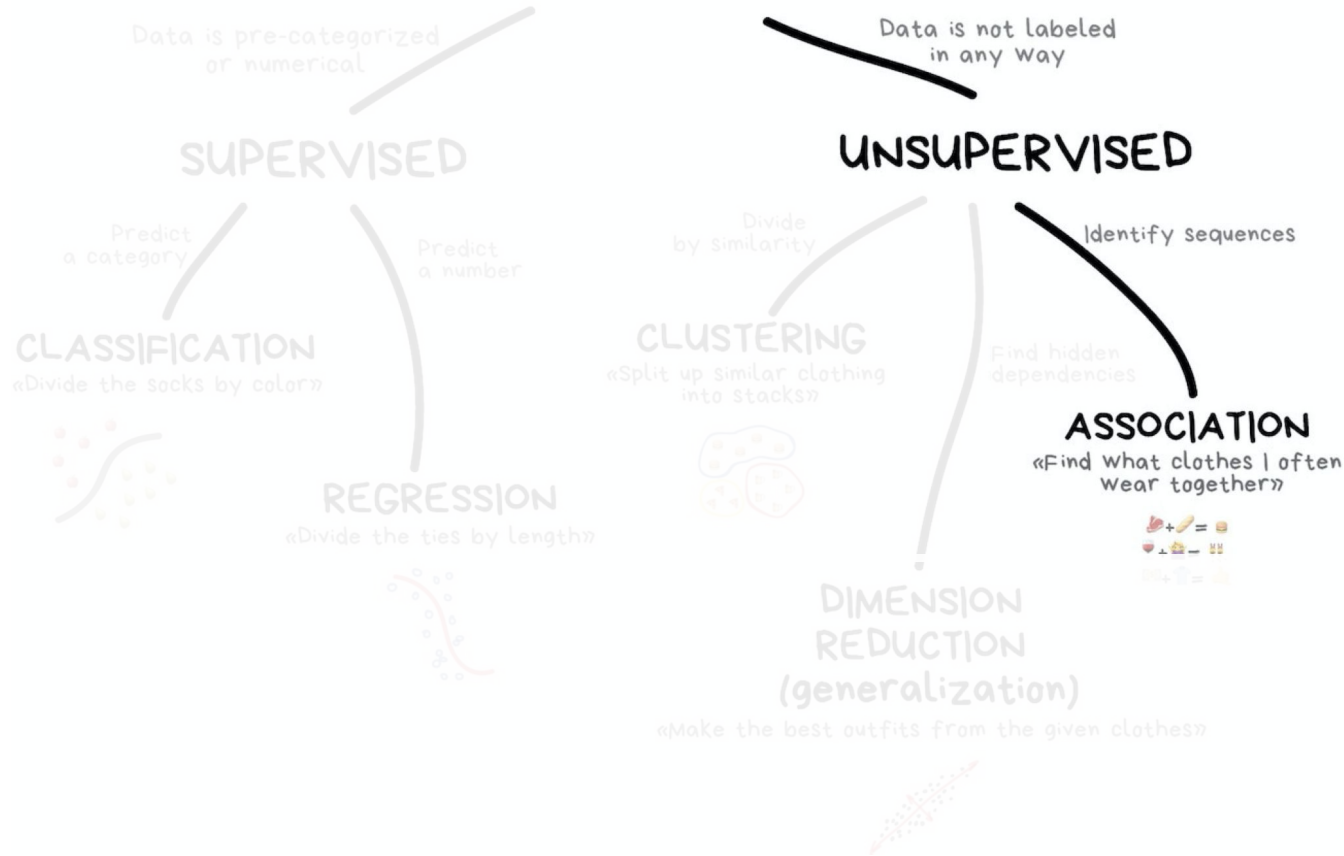
# Models



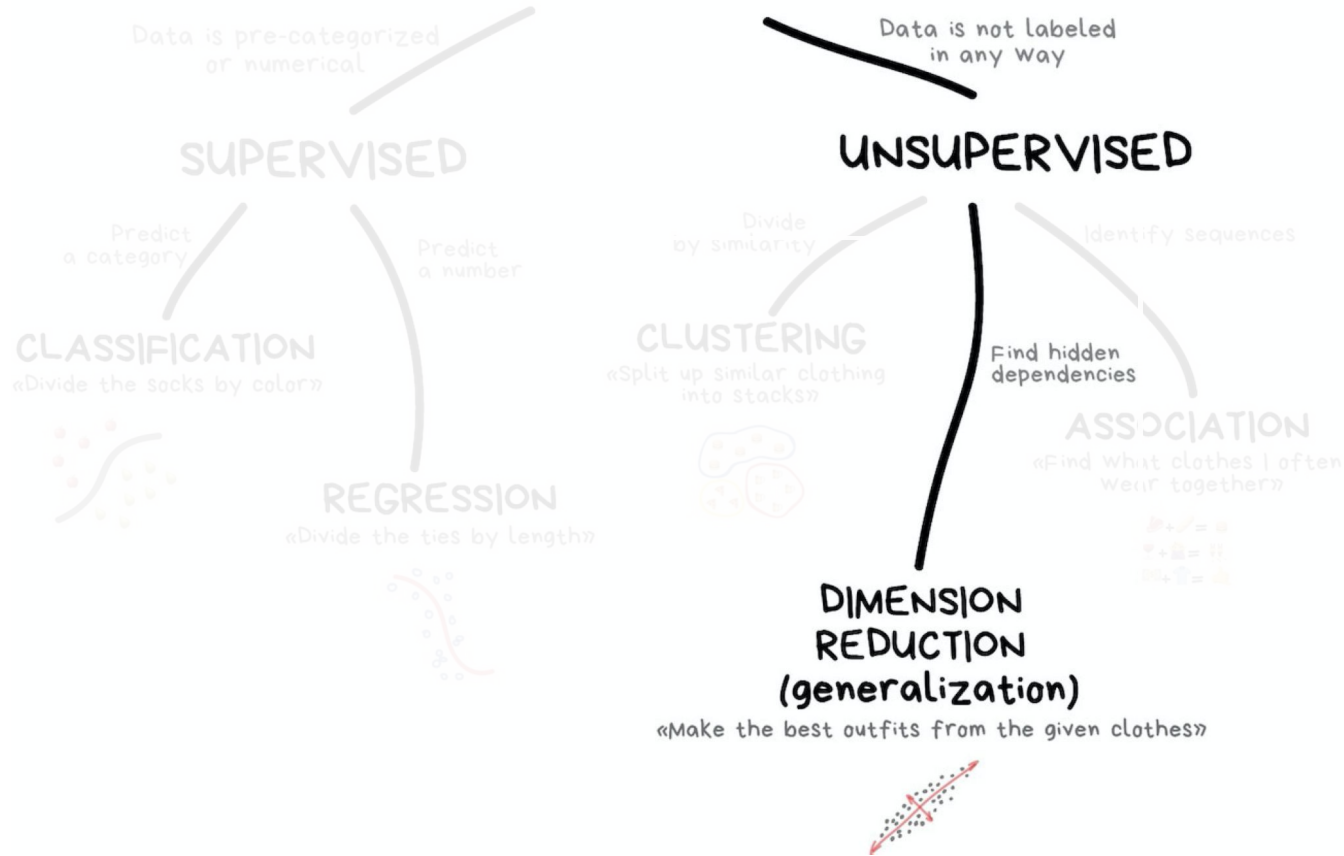
# Models



# Models

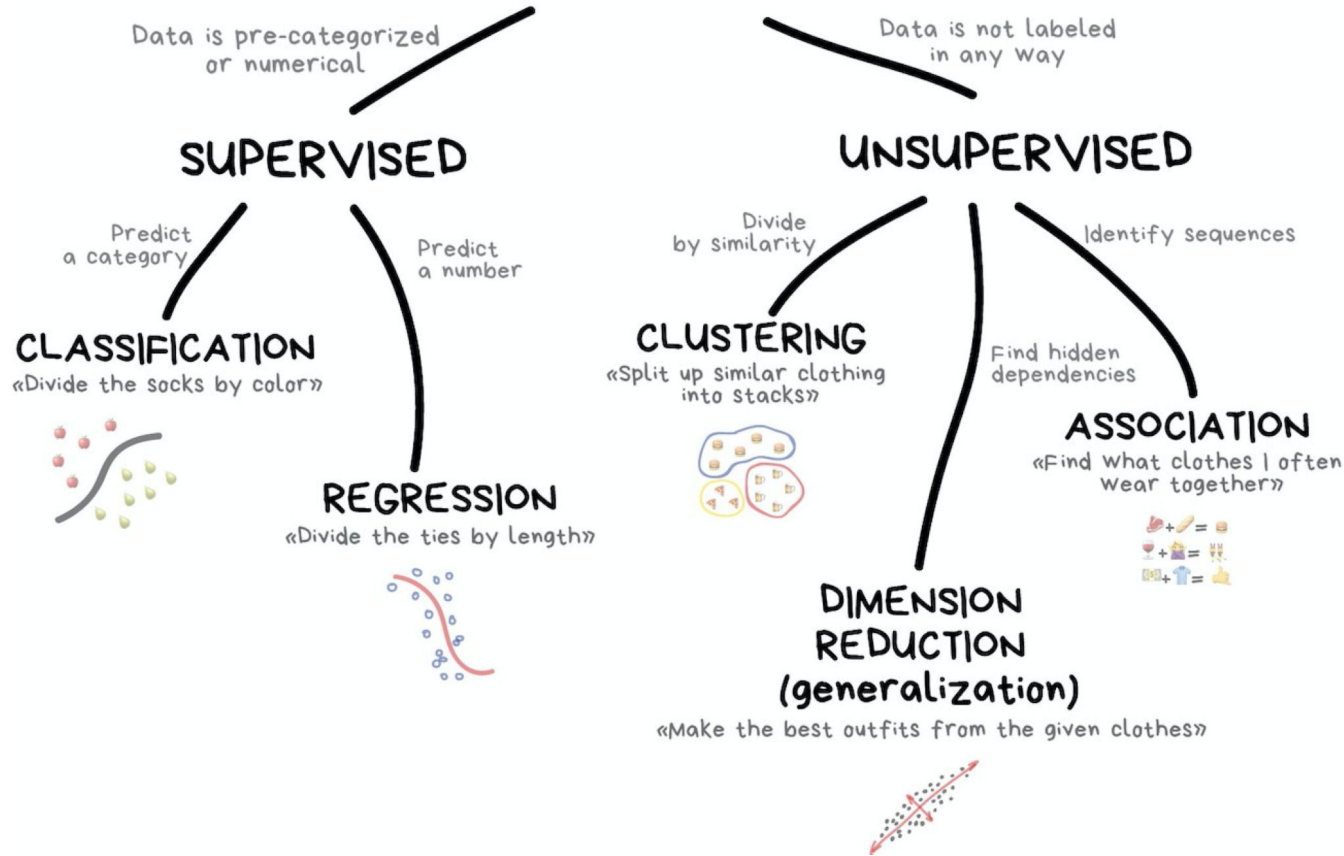


# Models





# Models



# Algorithms

