

Sequential Modelling Use Cases

Sequence Modeling: Video Understanding



Is the bird flying away from
the flower or coming
closer?

Sequence Modeling: Video Understanding



Previous frame



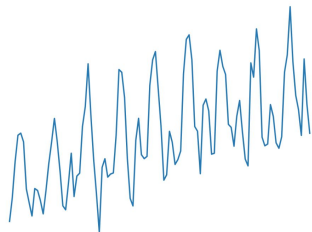
Future Movement

Sequence Modeling

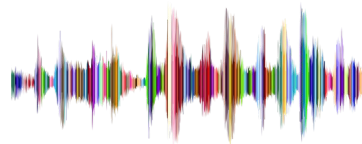
- Most of the data currently is in the form of sequences
- Sequence can be of various types:
 - Image Pixel Sequence
 - Number Sequence
 - Audio Sequence
 - Text Sequence



Image Pixel



Number

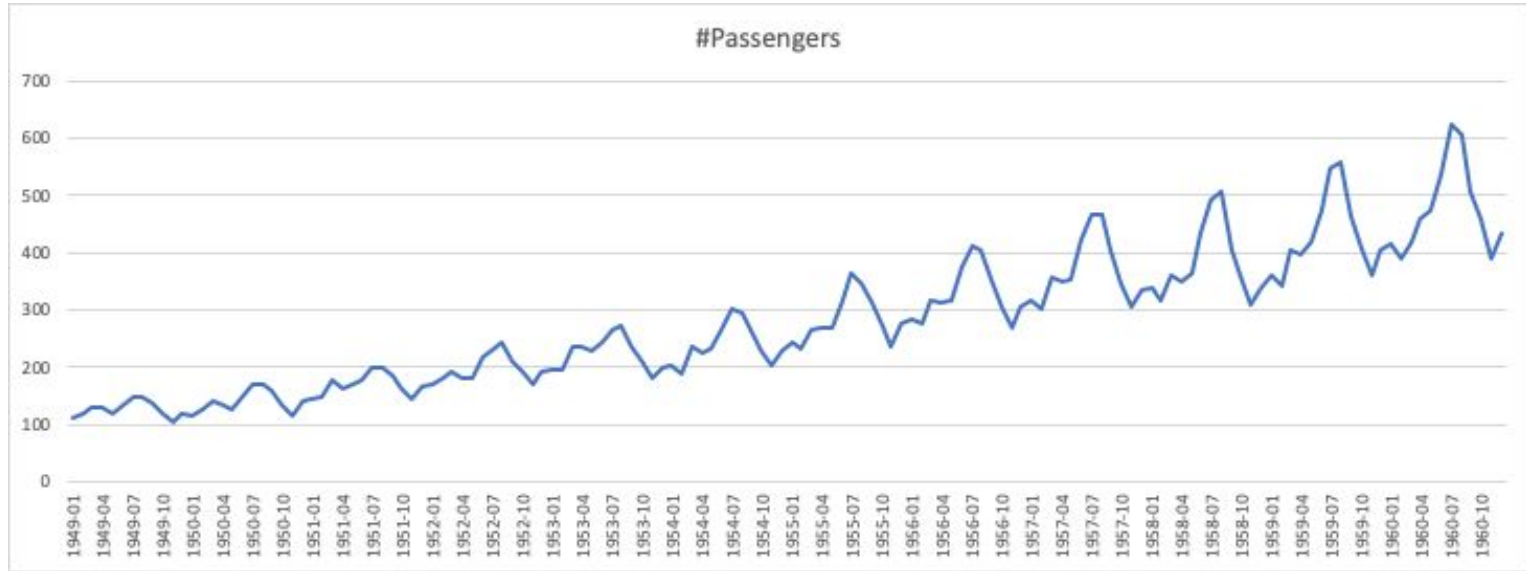


Audio

Sequence models
are super
powerful!

Text

Sequence in Time Series Forecasting



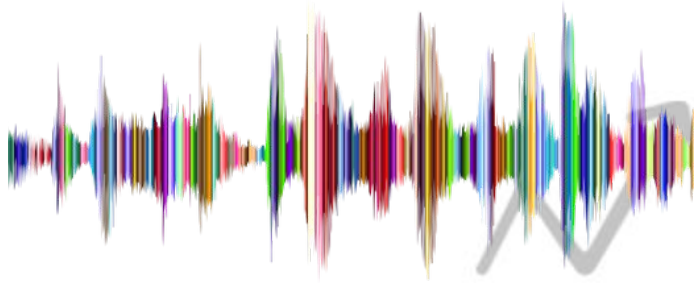
Predicting number of air passengers in US year on year

Sequence in Time Series Forecasting



- Monthly air passenger count is dependent on previous passenger traffic
- For example October sees a dip every year and it is shown by the red dot
- This sequence, if learned, can help make good forecasts

Sequence in Audio



- Audio sample is a sequence
- Convert audio to sequence of numbers
- Perform various sequence modelling tasks

Sequence in Audio: Audio Classification

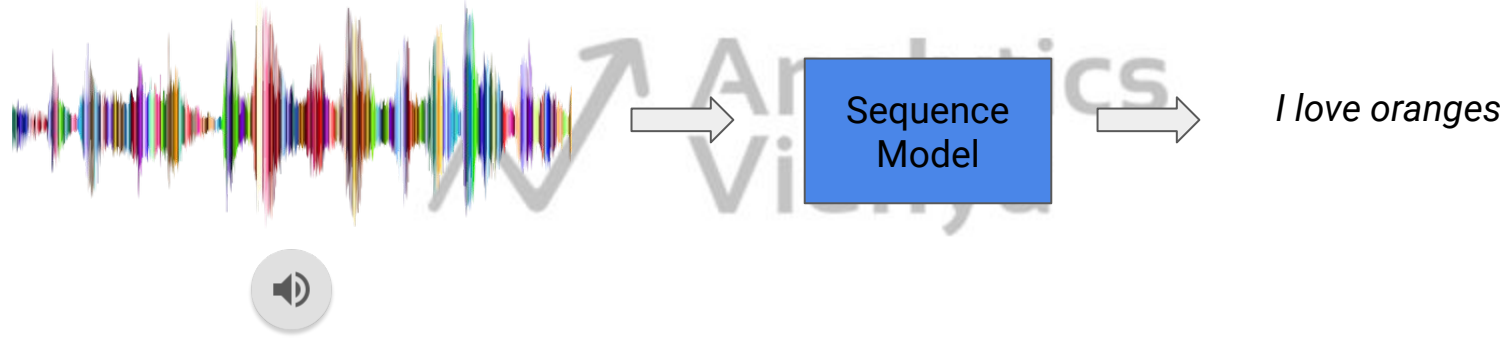


Emergency Vehicle



No Emergency Vehicle

Sequence in Audio: Speech Recognition



Sequence Modeling in Text

fantastic far experience so my been has!

My experience so far has been fantastic!

Sequence Modeling in Text: Text Classification

My experience so far
has been fantastic!



Sequence Modeling in Text: Text Classification

Your support team is
useless



Sequence Modeling in Text: Search Engines

Is iphone
better than
android?

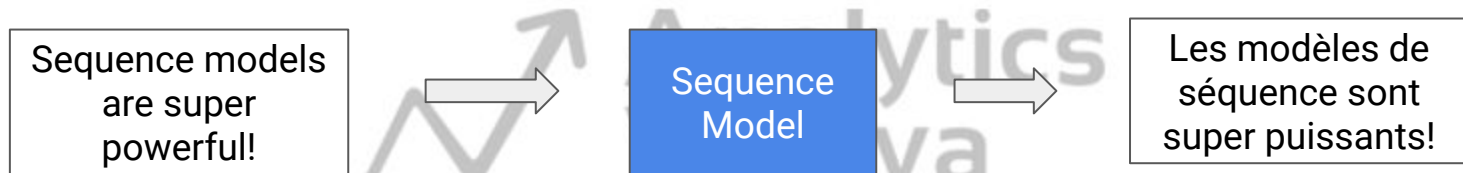


Sequence
Model

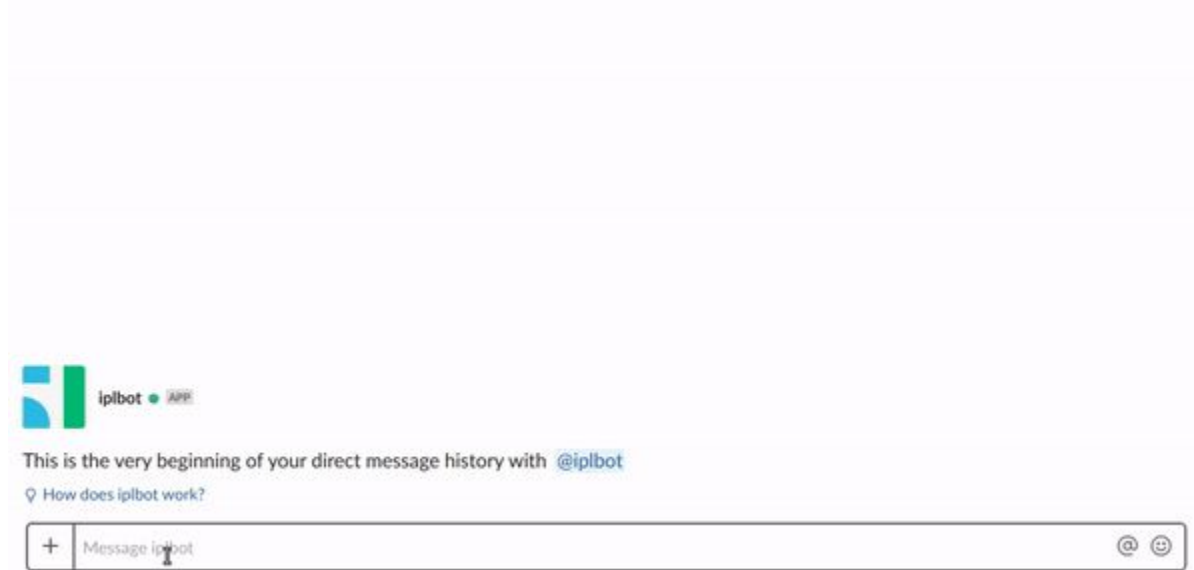


The screenshot shows a Google search interface. The search bar contains the text "Is iphone better than android?". Below the search bar, the top result is from "yourstory.com" with the title "iPhone Vs Android: Reasons to pick the iPhone over Android". The snippet mentions that the iPhone is faster than Android based phones. Below this, there is a "People also ask" section with four questions: "Is Apple better than Android?", "Which is more user friendly iPhone or android?", "Do iPhones last longer than androids?", and "Is iPhone better than Samsung?". At the bottom, there are two more search results: one from "tomsguide.com" titled "10 Reasons the iPhone Beats Android | Tom's Guide" and another from "lifelwire.com" titled "iphone-vs-android-best-smartphone-2000309".

Sequence Modeling in Text: Machine Translation



Sequence Modeling in Text: Chatbots



Dialog Systems

Sequence Modeling in Text: Summarisation

A strong analyst has 6 main characteristics. One should master all 6 to be successful in the industry:

1.
2.
3.



Sequence
Model



6 characteristics of a
successful analyst

 Thank You 