## Other NLP Tasks

Non-generative Extraction/classification

#### Sentiment Analysis and Review Analysis Customers say

Understanding Reviews

Customers find the Echo Show 8's screen size perfect for kitchen counters and appreciate its sound quality, with one customer describing it as an absolute powerhouse of a smart device. The functionality and ease of setup receive mixed feedback - while some say it works well and is easy to use, others report it doesn't respond and find it difficult to set up. Connectivity and value for money are also mixed aspects, with some customers reporting seamless integration and considering it worth the money, while others experience connection issues and find it overpriced. The ad quality receives negative feedback, with customers complaining about relentless and frequent ad displays.

ai Generated from the text of customer reviews

#### Select to learn more

✓ Quality ✓ Sound quality ✓ Screen size Functionality Ease of setup Connectivity Value for money \rightarrow Ad quality

744 customers mention "Quality" 596 positive 148 negative



Customers find the Echo Show 8 to be of excellent quality, describing it as a nice little device with an awesome speaker.

"...Great product and well worth the money. The only improvement that needs to be made it needs a battery backup when you loose wi-fi." Read more >

"Great device! Love the video chat feature. Great sound and my daughter use it everyday" Read more >

"Good product and quality. I need to return but because the Alexa didn't work for us." Read more >

"Excellent product, I recommend it, perfect sound and easy programming, 100 out of 10" Read more >

# Sentiment Analysis and Review Analysis

- Stock market prediction
  - Analyze news and social media sentiment to forecast market movements.
- Content moderation
  - Flag potentially harmful or toxic comments

# Tasks in Sentiment Analysis and Review Analysis

- Aspect Extraction Review: "The wine list is extensive and impressive."

  ATE: "wine list"
- Opinion Extraction Review: "The wine list is extensive and impressive." OTE: "extensive" and "impressive"
- Aspect-Opinion Co-Extraction

  Review: "The wine list is extensive and impressive."

  Aspect Term: "wine list"

  Opinion Term: "extensive", "impressive"
- Aspect-Opinion Pair Extraction
  Review: "The wine list is extensive and impressive."

  AOPE: "wine list", "extensive" and "wine list", "impressive"

# Tasks in Sentiment Analysis and Review Analysis

Aspect Sentiment Triplet Extraction

Review: "The wine list is extensive and impressive."

ASTE: "wine list, extensive, positive" and "wine list, impressive, positive"

Aspect-based Sentiment Analysis

Review: "The wine list is extensive and impressive."

ABSA: "wine list, positive"

Sentiment Analysis

Review: "The wine list is extensive and impressive."

Sentiment: "Positive"

Aspect Category Sentiment Analysis

Review: "The wine list is extensive and impressive."

ACSA: "Food#option, Positive"

### **Event Extraction**

Event Trigger Detection

```
Sentence: "John resigned from his job yesterday."

Trigger: "resigned"
```

Argument Identification

```
Sentence: "John resigned from his job yesterday."

Agent: "John", Object: "his job"
```

Event Classification

```
Sentence: "John resigned from his job yesterday."

Event: "End-of-Employment"
```

Temporal and Spatial Information

```
Sentence: "John resigned from his job yesterday."

Time: "Yesterday"
```

## Natural Language Inference (NLI)

- logical relationship between two pieces of text
  - Premise: A given statement.
  - **Hypothesis**: Another statement that may or may not logically follow from the premise.
- Goal: to determine whether the hypothesis
  - **Entails** the premise (i.e., it must be true if the premise is true),
  - **Contradicts** the premise (i.e., it must be false if the premise is true),
  - Is **neutral** (i.e., it could be true or false regardless of the premise).

Premise: "He is playing a

guitar"

**Hypothesis**: "He is making

music" E

**Hypothesis**: "He is

cooking" C

**Hypothesis**: "He is

American" N

## Natural Language Inference (NLI)

- Reasoning
- Text understanding
- Fact checking
  - Evidence Retrieval
  - Claim verification