

# ANALYZING CUSTOMER FEEDBACK FOR PRODUCT FIT PREDICTION

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# FIT PREDICTION AND CUSTOMER FEEDBACK

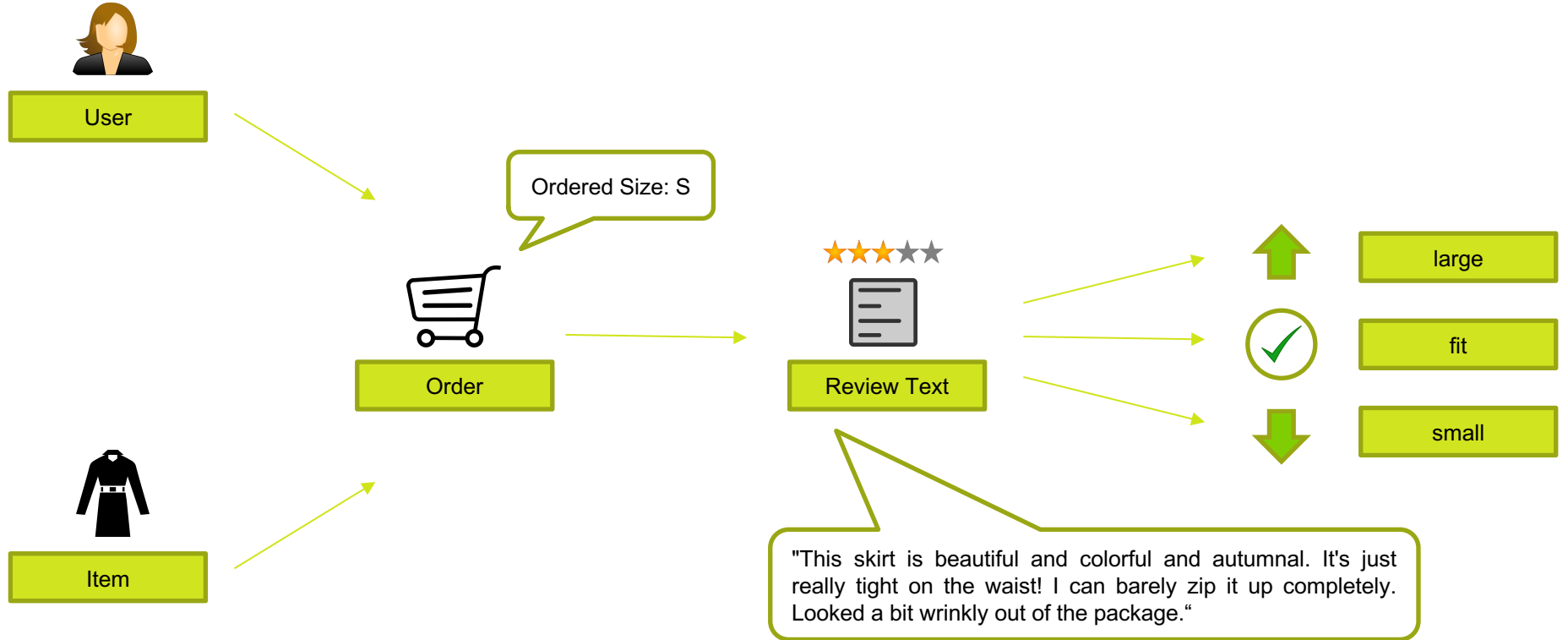
## PROBLEM

- Finding the right product size is a very important problem in online fashion retail
- Product fit has been shown to be the most prevalent factor for a satisfying online fashion shopping experience
- For both items and users, the “true” size is often unknown
- Important to gather fit feedback from the customer to build recommender systems
- In some cases feedback is available as natural text

## APPROACH

- Extraction of product fit feedback from customer reviews
- Traditional and very recent natural language processing techniques
- Classification of reviews whether the ordered size was a fit, or too large, or too small
- Recommender for inferring the “true” item size, and the “true” customer size is left for future work

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# TEXT CLASSIFICATION MODELS

## TEXT REPRESENTATIONS

- Bag-of-Words
- Mean Word Embeddings
- ULMFit (RNN)
- BERT (Transformer)

## DATASETS

- modcloth.com
- renttherunway.com

Method	ModCloth dataset	RTR dataset
Majority Class	0.6892	0.7396
TF-IDF LR	0.7899	0.8033
Mean GloVe LR	0.7124	0.7471
ULMFit Fine-Tuned	<b>0.8269</b>	<b>0.8420</b>
BERT Fine-Tuned	0.8113	-

# FUTURE WORK AND APPLICATIONS

## FIT PREDICTION

- More fine-grained models (which part of the garment did not fit)
- Define ontology to describe product sizes (explicit size representation)
- Generalize to items and users without review texts (either using implicit or explicit size representations)

## DOWNSTREAM APPLICATIONS

- Pre-selecting the recommended product size in the purchase order
- Informing customers about the fit of a specific item
- Improving search result rankings and recommendations