

**Data
resource**

Reviews of **robotic** vacuum cleaners

Reviews of **traditional** vacuum cleaners

(Amazon.com)

**Data
processing**

Python-based
computing platform

Eliminate unnecessary
data
(using Pyclld2)

Rectify typos
(using pyspellchecker)

Determine sentiment

Star ratings

+

Calculated sentiment scores
(using vaderSentiment)

Further remove redundant and
unessential information
(using NLTK and PyHelpers)

Lemmatization
(using spaCy)

**Data
modeling**

Establishment of four separate
topic models with LDA
(using Gensim)

Visualization
(using pyLDAvis)

Analysis

Robotic vacuum cleaners

Processed
positive
reviews

Processed
negative
reviews

Traditional vacuum cleaners

Processed
positive
reviews

Processed
negative
reviews