

# The value of Data mining in the Engineering design Process

Kayo Kamguem Cecile Jelissa<sup>1</sup>

Prof. Christian Lopez<sup>2,3</sup>

Methodology

Chemical Engineering<sup>1</sup>, Computer Science<sup>2</sup>, Lafayette College, Easton, PA

#### Introduction

**Engineers need feedback** from customers on goods produced by their companies in order to update their products.



- This feedback could be obtained from online customer reviews of the product and using data mining, the data can be summarized.
- Data mining is a process in which meaningful information is extracted from large volume of data.

### **Motivation**

As engineers, it is important to understand how people feel about products or services we produce.

Using data mining, customer sentiments for a

Case study	Results
Using online customer reviews from Walmart to identify issues faced by a five cup coffee maker by:	Sentiment Analysis
<ul> <li>Performing sentiment analysis.</li> <li>Performing Semantic</li> </ul>	7
Semantic network Walmart	
Aethodology Data Collection	
100 reviews50 positive andcollected on50 negative12/10/2019reviews	
Data Preprocessing	Semantic network
Removal of punctuations	taste
Sentiment Semantic	chemical plate hot

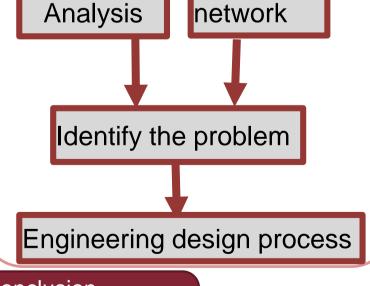
product could be converted into numbers that are easy to interpret graphically. **EXAMPLES OF** CUSTOMER REVIEWS

• Produces so **much noise**: It produces so much noise so will not be appropriate to make coffee at night when kids are

sleeping.Sentiment: -0.70

Perfect Temperature: It produces coffee at a specific temperature that suits the consumer. Temperature could be modified and varied

depending on how hot the consumer wants the coffee to be. Sentiment of 0.90



#### Conclusion

The sentiment obtained is highly positive showing that customers are overall satisfied with the current coffee maker which means that engineers should maintain the current features of the product while doing minute changes.

## **Contact details**

Jelissa, kayokamc@lafayette.edu Prof. Lopez, lopezbec@lafayette.edu sites.Lafayette.edu/lopezbec

