Rebranding Businesses through Sentiment Analysis

(Case study: African Businesses in Alberta)

by
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About Me….

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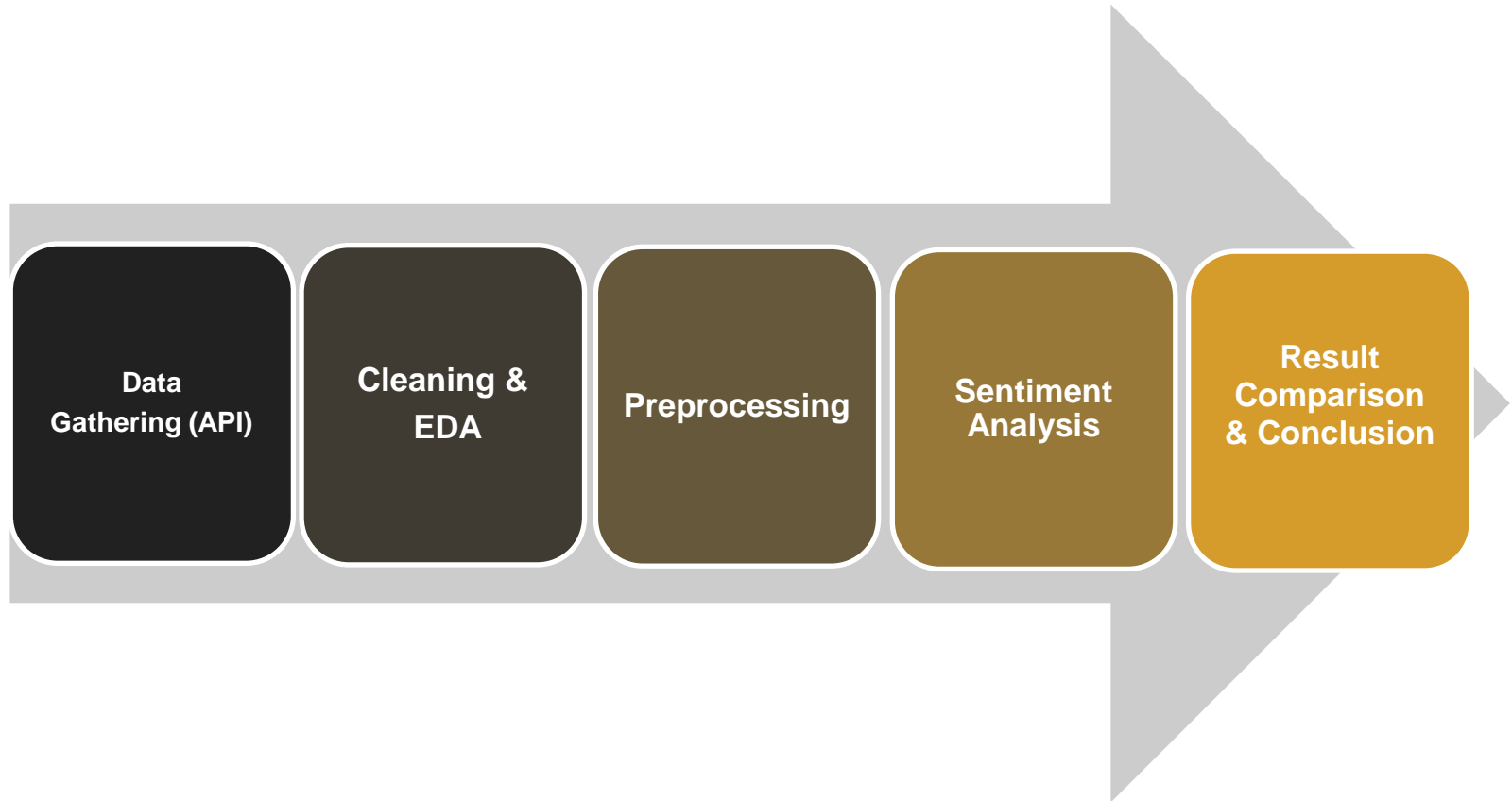https://github.com/AbiAfolabi?tab=repositories
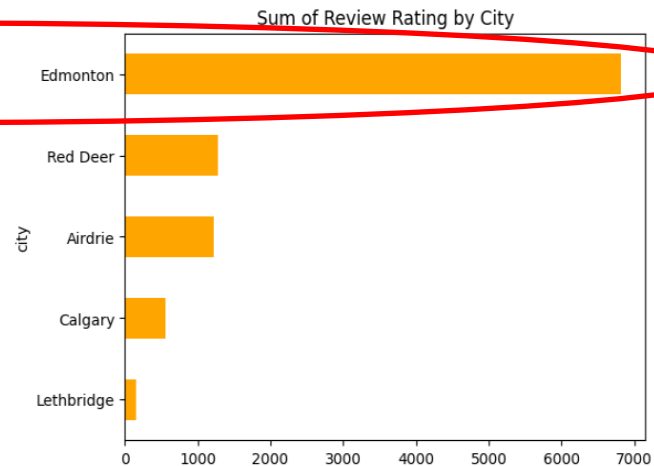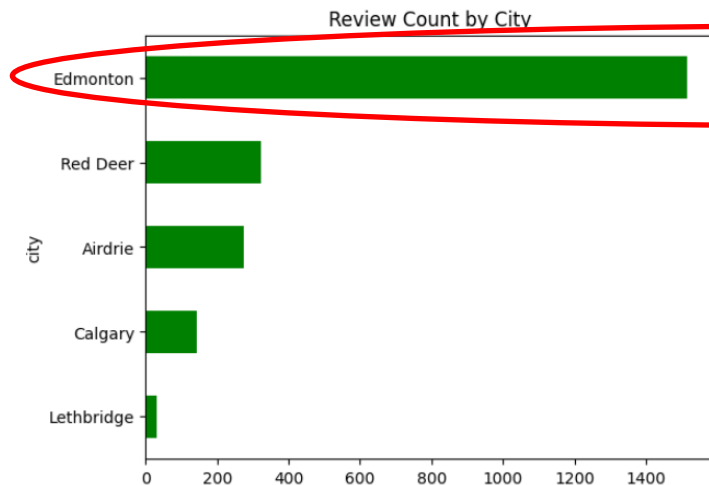
Objectives

- Showcase and reinforce learnings:

    - API in data gathering.

    - sentiment analysis to support business growth.

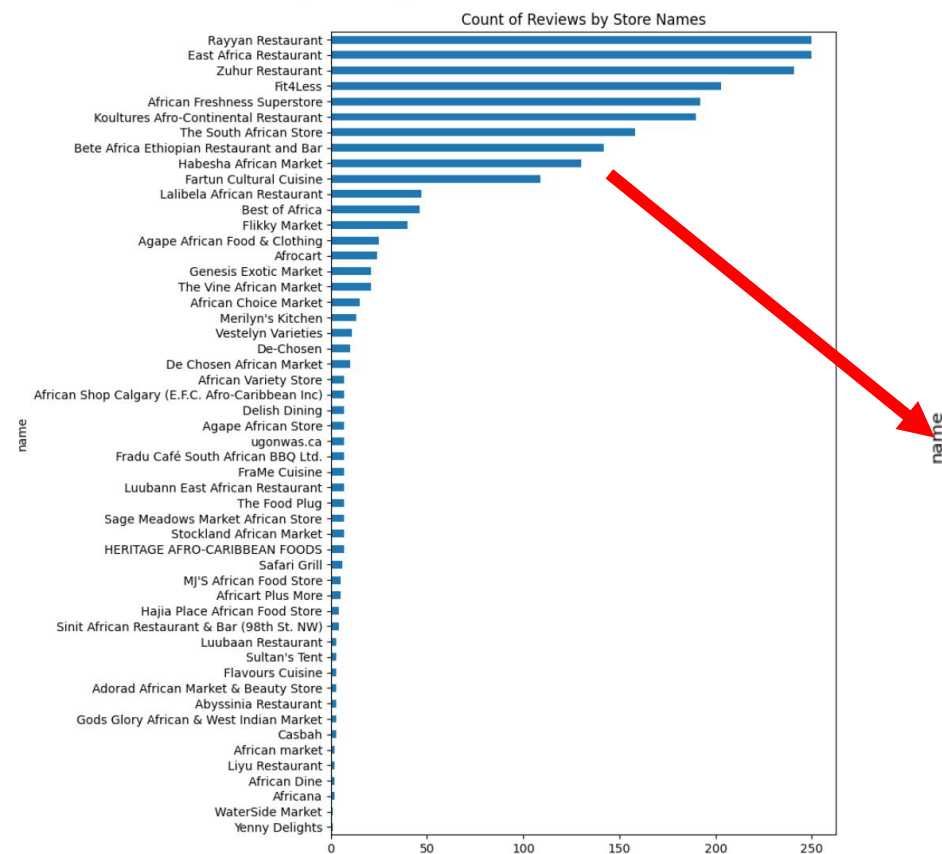# Project Execution Steps

Discoveries from EDA (1)

Discoveries from EDA (2)

Discoveries from EDA (3)

Average Review rating by Store Names
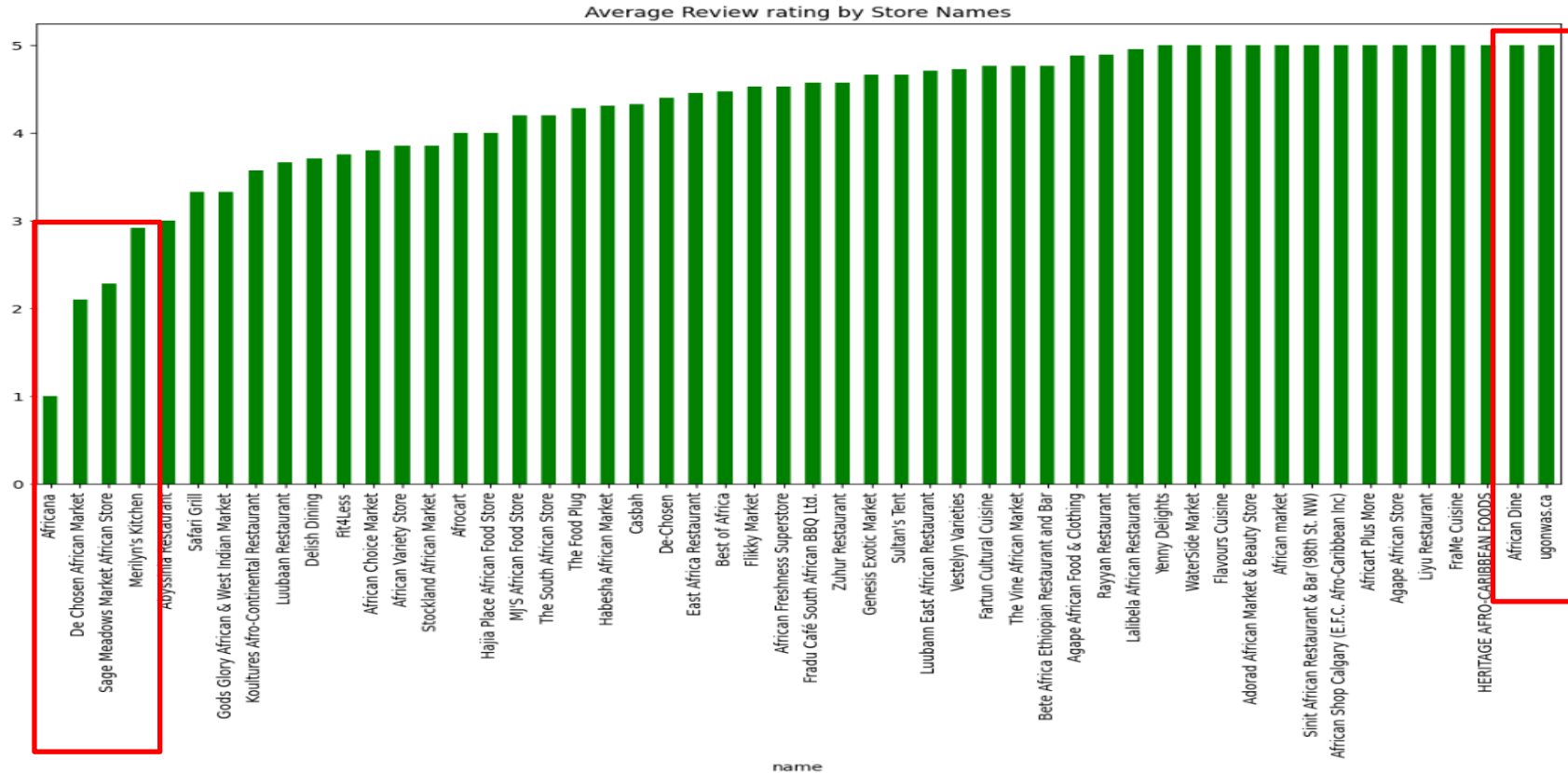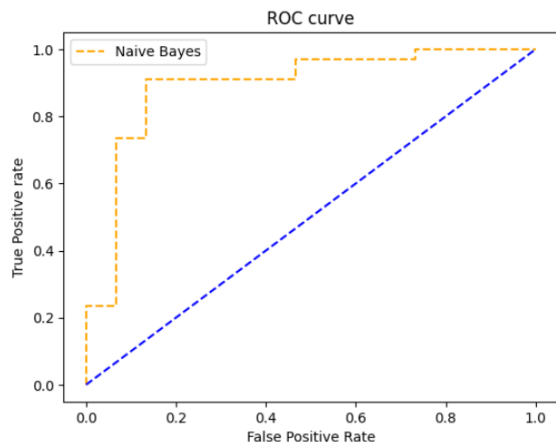
Sentiment Analysis

- **Naïve Bayes model**
  - 10% of dataset manually labelled
  - Naïve Bayes model

- **VADER model**
(Valence Aware Dictionary for sEentiment Reasoning)

- **BERT model**
(Bidirectional Encoder Representations from Transformers)

Pre-trained models

Comparison of Results (1)

string_nostop	sentiment_Vader	BERT_sentiment	Naive_Bayes
long time customer store always great experience however recently change staffing experiences less pleasant today attended regular shopping usual noticed prices increase drastically buying items mom calgary bought pepper even though price anywhere item located occurred leaving store check mom whether would fine 10 dollar price small amount pepper said buy return returned store less 5 minutes later telling returns due covid 19 understandable however needs made aware customers arriving door behind counter one ever thought look nothing preventing store associates mention every customers reinforce information store associate realized going	{'neg': 0.03, 'neu': 0.819, 'pos': 0.152, 'compound': 0.9058}	[{'label': 'NEGATIVE', 'score': .9958089590072632}]	0

? ✔ ✔

Comparison of Results (2)

string_nostop	sentiment_Vader	BERT_sentiment	Naive_Bayes
first time ordering deliver first customer service quite excellent ms bukola i'm assuming owner pleasant ordering process quite patient long list items also swift attentive delivery day appreciated kept date delivery status pleasantly surprised items came well packaged presentable valentines day gift easy send recipient also visited ne store times always great experience pleasant service clean store funny smells round kudos team moved calgary another province go spot	{'neg': 0.0, 'neu': 0.565, 'pos': 0.435, 'compound': 0.9903}	[{'label': 'POSITIVE', 'score': 0.9985577464103699}]	1

Results & Conclusion

- African stores have potential to grow into chains.

- BERT & Naïve Bayes Models performed better in sentiment classification.

- Future work – break down reviews into separate sentences (or phrases).

Thank you

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https://github.com/AbiAfolabi?tab=repositories