Idea Paper Presentation on

Intent Classification from Banglish Facebook Comments: Identifying what Customers Want

Author(s) & Presentation By:
Sabbir Ahmed Sibli, 20266027
Nuray Jannat, 20266028
M.Sc. in CSE, BRAC University

Content(s)

- Background Study
- Literature Survey
- Our Proposed Model
- Potentials of this Research
- Some Limitations & Future Goals
- Takeaways
- Bibliography

Background Study

- E-Commerce through Social Media is a blooming topic nowadays.
- Beside many tech giants like Amazon, eBay etc. many small entrepreneurs choose social platform for their business.
- E-commerce through social platform has several advantages like,
  - Reaching new customers is easy and fast.
  - Communicating with people is easy and casual.
  - Low maintenance cost.
- **Facebook** is one of the most popular platforms for e-commerce.

Background Study (Contd.)

- Generally seller is social platforms create public posts about their products in Facebook.
- People are open to comment their opinion on those posts.
- In Bangladesh as well as Bengali speaking people all over the world uses Bengali phonetic form in English known as **Banglish** for facebook commenting.
- Intent analysis from those comments can help sellers to understand whatever the customer's view on the product.
- We've proposed a model to classify intention of the customers from facebook banglish comments.

Literature Survey

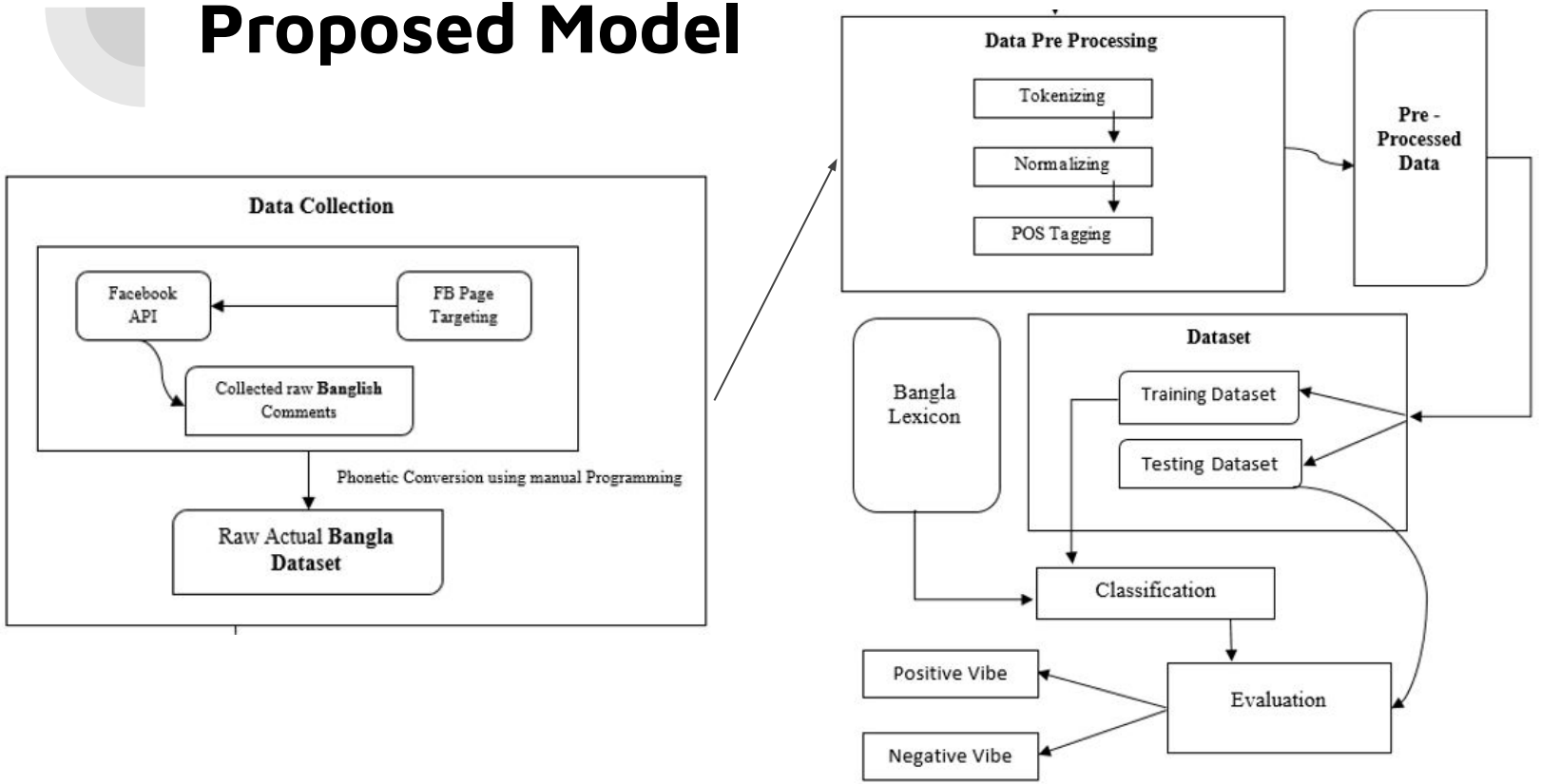
- Sentiment Analysis in Bangla Microblog Posts (**Chowdhury et al., 2014**).
- Intent classification of short text of Social Media (**Purohit et al., 2015**).
- Collecting and Processing Arabic Facebook Comments for Sentiment Analysis (**Abdel Jalil et al., 2017**).
- Converting Banglish words into Bangla word. (**Jia Uddin et al., 2015**).
- Bangla phonetic Identification using DWT. (**Santanu et al. 2016**).
- Banlga sentiment analysis using Machine Learning (**Nusrath et al. 2019**)

Proposed Model

- Proposed Model has mainly three parts:
  - **Data Collection** - Using Facebook page targeting API.
  - **Data Pre-Processing** - Lexical Analysis like tokenizing, normalizing & POS Tagging.
  - **Classification** - Using supervised classifier like SVM, ANN etc.

- This is currently a **hypothetical** model. But we have full plan to implement it soon as possible.

Proposed Model



Potentials of this Research

- No broad level works have done in sentiment analysis in Bangla, specially with Banglish term.
- Our proposed model can be usable for any local languages, only the lexicon of that language is needed.
- This model is also workable for creating social comments Dataset.
- This model is also suitable for other predictions like hate speech detection, rumor detection etc.
- We hope, This research will open a window for the field of Bengali Language processing field in social media based E-commerce.

Some Limitations & Future Goals

- Though it’s a hypothetical model, we could make it impossible level **perfect**, but first we thought about real time implementation.
- We haven’t consider **English-Banglish** mixture comments here, in future we’ll do.
- Lexicon is a limited dataset of positive and negative tokens, we should work with an unsupervised approach for categorical classification.
- We’ve shown only binary classification, but n-nary point of view classification would be more helpful to get the customer’s actual needs.

Takeaway

- For being able to respond quickly, prediction of customer's intent view over product is very important.
- This proposed model can be further developed like as followings:
  - Data collection using Data Mining Techniques instead of manual programming.
  - Unsupervised approach for categorize classification instead of Lexicon.
- We hope, This research will open a window for the field of Bengali Language processing field in social media based E-commerce.

“If you steal from one it’s plagiarism, if you steal from many it’s called research.”

- Wilson Mizner

Bibliography

1. Chowdhury, S. and Chowdhury, W., 2014, May. Performing sentiment analysis in Bangla microblog posts. In *2014 International Conference on Informatics, Electronics & Vision (ICIEV)* (pp. 1-6). IEEE.
2. Purohit, H., Dong, G., Shalin, V., Thirunarayan, K. and Sheth, A., 2015, December. Intent classification of short-text on social media. In *2015 ieee international conference on smart city/socialcom/sustaincom (smartcity)* (pp. 222-228). IEEE.
3. Elouardighi, A., Maghfour, M. and Hammia, H., 2017, October. Collecting and processing arabic facebook comments for sentiment analysis. In *International Conference on Model and Data Engineering* (pp. 262-274). Springer, Cham.
4. Uddin, J., Kabir, H., Nasib, A.U. and Ahmed, R., A Real Time Speech to Text Conversion Technique for Bengali Language.
5. Phadikar, S., Das, P., Bhakta, I., Roy, A., Midya, S. and Majumder, K., 2017, March. Bengali phonetics identification using wavelet based signal feature. In *International conference on computational intelligence, communications, and business analytics* (pp. 253-265). Springer, Singapore.
6. Tabassum, N. and Khan, M.I., 2019, February. Design an empirical framework for sentiment analysis from Bangla text using machine learning. In *2019 International Conference on Electrical, Computer and Communication Engineering (ECCE)* (pp. 1-5). IEEE.

Thanks!

Question Time!

sabbir.ahmed.sibli@g.bracu.ac.bd
nuray.jannat@g.bracu.ac.bd