Final Project – DataGlacier Virtual Internship 2024

Project Title: NLP - Twitter Hate Speech Detection with Transformer (Deep Learning)

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Problem Statement:

Hate Speeches are taking over every media, social platform etc., The term hate speech is understood as any type of verbal, written or behavioral communication that attacks or uses derogatory or discriminatory language against a person or group based on what they are, in other words, based on their religion, ethnicity, nationality, race, colour, ancestry, sex or another identity factor. Designing a model to detect such speeches or posts on these platforms are getting complicated these days with increase in usage different languages.

Business Understanding:

We are leveraging Twitter data to develop a model for detecting hate speech. While identifying hate speech might seem challenging at first glance, it is fundamentally a sentiment classification task. The goal is to create a deep learning model capable of determining whether a given tweet contains hate speech based on the words used. To achieve this, we have chosen transformers as the core architecture for building the model, integrating advanced deep learning techniques to enhance its performance and accuracy.

Project Life Cycle with deadlines: The project is composed of different stages in which each contributes to the project, the same level. The estimated deadline for each stage has been given in the following:

1. Data Cleansing & Normalization – 20th NOV – 27th NOV

2. Exploratory data analysis –24th NOV – 30th NOV.

3. Representation learning – 2nd DECEMBER – 9th DECEMBER

4. Model Building and Training - 2nd DECEMBER – 9th DECEMBER

5. Model Evaluation – 9 th DECEMBER – 15th DECEMBER

6. Model Deployment in Azure – 15th December – 24th December

7. Model Inference – 24th December

8. Project Report – 28th December