

Amadation - The Amazon Reviews Expert

Inception Phase

Team : C

Date : 09 / 13 / 2020

Team Members:

Jaineel Vyas, Mahlika George, Pranita Menavlikar, Sylvia DeMarree, Bhavin Jethra

Perceived Purpose of the Product:

The product will be used by users as a way to aid their understanding towards a particular product. It will simplify the text based reviews converting them into a rating scale from 0 to 1. The ratings are split in 6 classes with a gap of 0.2 between each. The product is essentially a trained multi-class recommendation model.

Preliminary Plan:

This plan starts at the Elaboration Phase & Planning (Week 5) until the Transition Phase (Week 15). It covers the task that needs to be accomplished that week and when we will virtually meet.

Week Tasks to Accomplish Tentative Meeting Dates:

Week	Tasks to Accomplish	Team C Meeting Dates
Week 5 (9/14-9/20)	<ol style="list-style-type: none">1. Practice working with Azure2. Understand the data/pre-process, if required.	WhatsApp Chat
Week 6 (9/21-9/27)	<ol style="list-style-type: none">1. Understand existing Neural Network and implementation of the Model2. Learn sentiment analysis methodologies.3. Set up GitHub Repository & Trello accounts (Due Week 7)	WhatsApp Chat
Week 7 (9/28-10/4)	<ol style="list-style-type: none">1. Identify loopholes in the existing model2. Create the Project Webpage (Due Week 8)	WhatsApp Chat

Week 8 (10/5-10/11)	1. Fine-tune the hyperparameters to improve accuracy 2. Project Architecture & Design (Due Week 9)	WhatsApp Chat
Week 9 (10/12-10/18)	1. Modify the Model	10/12
Week 10 (10/19-10/25)	1. Continue working on Model/Fine-tune	10/19
Week 11 (10/26-11/1)	1. Continue working on Model/Fine-tune 2. Status Report 2 (Due 11/8)	10/26 10/31
Week 12 (11/2-11/8)	1. Finish Model 2. Work on PowerPoint (Due Week 13)	11/2
Week 13 (11/9-11/15)	1. Status Report 3 (Due 11/15) 2. Practice Presenting Together	11/9
Week 14 (11/16-11/22)	1. Present Final Product (11/20 @5PM EST) 2. Attend other presentations (11/18 @3PM, 11/19 @5PM)	11/16 11/20
Week 15 (11/23-11/24)	1. Attend other presentations (11/23 @ 5PM, 11/24 @ 5PM)	

Key Requirements:

Business Requirements

1. System should be able to suggest a rating for a product which the client is looking for without making the client go through all the text reviews.
2. System should be reliable enough i.e the model must have high accuracy so that the client can trust the rating of the product.
3. Clients would prefer the recommendations to be time sensitive so the system should incorporate the use of parallel processing without compromising the accuracy.

Technical Requirements :

1. Identify the flaw in the implementation of each phase (Data collection, Data Preprocessing, Data Transformation, Model Training, Model Testing, Model Evaluation) of the existing ML model in depth, to narrow down in which phase the potential improvements can be done.
2. System set ups for Azure, Trello, GitHub repository, IDEs for all the team members
3. Explore Textual feature understanding for identifying sentiment by comparing - N - grams, Bag of Words, Latent Dirichlet Allocation, Feature Hashing, etc.