Tunner Chimhondo - HyperionDev Data Science Bootcamp

DS T22 - Capstone Project

Compulsory Task 1

a. Combination of Naïve Bayes, Support Vector Machine
Categorization/Classification/Supervised Learning : The NLP application in this case is categorizing emails and allocating them to specific mail folders based on their content or other relevant factors. This application requires labeled data where emails are already categorized into folders, and the model learns from this labeled data to classify new emails. The classification can use other machine learning techniques on top of Naive Bayes and SVM.

b. Natural Language Processiong (NLP)
Automated Essay Grading/Unsupervised Learning: The model analyzes/evaluates the essay content and other factors to cluster and group similar essays together, allowing the professor to assign grades based on the patterns observed in the clusters. The model will assess the essay based on various factors such as content, grammar, structure, coherence, and relevance of the essay based on various linguistic and semantic features.

c. Decision tree using Classifier
Medical Diagnosis Assistant : This involves techniques such as question-answering or knowledge-based approaches. Based on the patient's answers, the model provides probable diagnoses for the doctor to consider and make informed decisions. It leverages natural language understanding (NLU) and medical knowledge. It can involve elements of both supervised and unsupervised learning, although if the model is trained using labeled data with pre-defined diagnoses, it can be considered supervised learning.