

Here's the categorization of NLP applications for each of the given use-cases:

a. A model that allocates which mail folder an email should be sent to (work, friends, promotions, important), like Gmail's inbox tabs.

Category: Text Classification

Explanation: This use-case involves classifying emails into different categories or folders based on their content or context. The model analyzes the text of the email and assigns it to the appropriate category, such as work, friends, promotions, or important. Text classification is a common NLP application used for tasks like spam detection, sentiment analysis, and topic classification.

b. A model that helps decide what grade to award to an essay question. This can be used by a university professor who grades a lot of classes or essay competitions.

Category: Automatic Summarisation

Explanation: This use-case falls under the category of automatic summarisation. The model analyzes the content and structure of an essay question and provides an automated assessment of the essay, helping to determine the grade to be awarded. Automatic summarisation systems use various NLP techniques to assess factors such as coherence, grammar, vocabulary, and argumentation in the essay.

c. A model that provides assistive technology for doctors to provide their diagnosis. Remember, doctors ask questions, so the model will use the patients' answers to provide probable diagnosis for the doctor to weigh and make decisions.

Category: Question Answering

Explanation: This use-case involves the application of NLP techniques for question-answering. The model assists doctors by asking relevant questions to gather information from patients and then uses the patients' answers to provide a probable diagnosis. It helps doctors in decision-making by leveraging NLP-based techniques such as information retrieval, natural language understanding, and medical knowledge representation.