

Anonfeedback.io

Enhancing Student Feedback Collection and Analysis with AI & HCI Techniques

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Aims & Objectives

The goal of this project is introducing a real-time feedback system to facilitate feedback collection and analysis in educational settings. The system allows students to submit anonymous feedback easily. Utilising AI, more specifically LLMs (GPT-4 model), the feedback goes through a moderation layer and is then analysed for its sentiment.

The instructors can generate custom room links for their lectures, labs, and other sessions, ensuring that feedback is properly categorised. They can then review the submitted feedback through a custom dashboard, where various insight tools such as word cloud, feedback trends, and dynamic filtering, can be employed to act promptly on it.

This action, often referred to as “closing the loop”, ensures a continuous cycle of improvement based on real-time insights.

Methods

Embracing the universal appeal of emoticons, the system allows students to convey their sentiments effortlessly and anonymously through a user-friendly app interface consisting of a triad of emoticons. Each one is complemented with a set of relevant tags that facilitate the feedback submission. Optional textual feedback is also allowed.

The analysis of student feedback with Generative Pre-trained Transformers (GPT) is a relatively unexplored territory. A recent study from Kheiri and Karimi (2023) indicates that utilising GPT models for sentiment-analysis tasks via a prompt-based of fine-tuning approach substantially outperforms more traditional machine learning classification techniques (SVM, NB, CNN, etc...).

In this project, a few-shot prompt-based strategy is used for sentiment analysis. This method integrates a set of training examples into the prompt to provide the model with extra context. By setting the temperature to 0, which adjusts output predictability through log probability for dynamic tuning, randomness and focus are effectively balanced. This approach results reliably in a structured JSON output that captures detailed analysis and reasoning directly from the model, which is then processed within the system.

Ongoing Work



Your Anonymous Voice Matters

The full system is a full-stack application that implements several technologies, but the base is built with the MERN stack and deployed on Google Cloud through a Docker container.



The web app is currently live. To give feedback directly to the institution (currently only Robert Gordon University), you can follow the following link:

<https://rgu.anonfeedback.io>

If you'd like to send some feedback about this project or poster, I am also keeping the following link active:

<https://rgu.anonfeedback.io/fran/discussion>

Predicted Outcomes

One of the main predicted outcomes include increased student engagement, as the system aims to limit the amount of effort required for the student to submit feedback. Additionally, the anonymous nature is expected to promote more honest, critical feedback. GPT-4's sentiment analysis and the provided insight tools should provide a more nuanced understanding of the students' perspectives.

Francesco's Poster

The student selected 😊 28/03/2024

AI Sentiment Classification: positive

Feedback:
I hate this poster #jk

Reasoning:
The feedback contains a phrase that indicates strong negative feelings, but the use of '#jk' suggests sarcasm, reversing the initial negative sentiment. Therefore, the main sentiment is positive.

Tags:
The poster is looking good!

The reasoning provided by the AI, combined with the selected emote & tags, aims to aid instructors in their decision-making.

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