IMPLEMENTING GenAI – A STRATEGIC INTERVENTION AT KSPT

SUMMARY

The recent explosive developments in Generative Artificial Intelligence (GenAI) are predicted to have a major impact on education in teaching and learning. This development is consistent with other innovations that have occurred and are occurring in education. KSPT has done its best to keep up with the new technologies, implementing an LCMS post-COVID to meet the challenges of remote teaching and learning.

With the ubiquitous progress of ChatGPT, KSPT has identified a strategic intervention necessary to ensure that the benefits of AI are incorporated and used at KSPT. This document identifies broadly a strategic mediation of AI-driven education and outlines an implementation plan that will move KSPT into the world of AI.

An initial research paper on the application of AI in Education is recommended as a starting point that will then be used to build an AI plan for KSPT in the coming academic year 2024.

BACKGROUND

Post-Covid 19, many educational institutions including KSPT embarked on innovations and new practices to meet the challenges of increased requirements for remote or online education i.e., both synchronous and asynchronous modality. While KSPT had implemented the fundamentals of remote teaching and learning mainly due to the disparate location of its students, the COVID-19 pandemic mandated a more structured and widespread use of online teaching. In this regard, KSPT implemented a Learning Content Management System (LCMS), the Tovuti Platform customized as K-Alpha in mid-2021. To date, KSPT has resolved most of the initial installation challenges and successfully uses K-Alpha for its programmes.

It is therefore timely that an AI initiative be undertaken as there is currently no competing similar initiative that could distract the staff. In addition, the recent CANQATE conference highlighted the range of applications that are underway in education and the impact on the future of education.

In this regard, KSPT needs to implement an AI strategy not only to keep up with the evolution of education but also to continue to be relevant and focused on the changing needs of employers and students.

GenAI STRATEGY

KSPT will implement responsible use of educational AI systems such that the practice (of AI) permeates the KSPT enterprise both in academic and non-academic functions.

ARTIFICIAL INTELLIGENCE

Artificial intelligence is not a new concept and has been in use in various fields such as engineering and medicine for the past 50 years. The initial concept was to capture the knowledge and learnings of experienced practitioners and to make it available to a wider audience of users. The theoretical basis for many of the rules and practices was also captured so that the basis for a given procedure was available to all users particularly those now embarking on their careers. The initial approach was to generate many models based on variations of specific parameters so that a user can find a model that may match the current problem he is solving and hence produce a rapid solution. So conceptually the novice is using solutions, experience and practices based on theory and real examples from a wide community of experts. This is known as Traditional AI.

Generated Artificial Intelligence (hereafter referred to as GenAI) is a branch of computer science in which new content is produced using advanced algorithms and machine learning. Content can include text, images, code, audio, and video, and is typically created by prompts or other user input.

(see Appendix 1 for a brief description of each take from Reference 2)

The relatively recent innovations in AI are based on ‘transformer architecture’ and are particularly well-suited to natural language processing tasks, like answering questions or generating text. This model was created using 'generative pre-training', which means it's been trained on huge amounts of text data to predict the next word in a given sequence. This is the basis for CHATGPT.

WHAT IS CHATGPT?

ChatGPT is an AI chatbot that was initially built on a family of large language models (LLMs) collectively known as GPT-3. OpenAI has now announced that its next-gen GPT-4 models are available. These models can understand and generate human-like answers to text prompts because they've been trained on huge amounts of data.

For example, ChatGPT's most original GPT-3.5 model was trained on 570GB of text data from the internet, which OpenAI says included books, articles, websites, and even social media. Because it's been trained on hundreds of billions of words, ChatGPT can create responses that make it seem like, in its own words, "a friendly and intelligent robot".

This ability to produce human-like, and frequently accurate, responses to a vast range of questions is why ChatGPT became the fastest-growing app of all time, reaching 100 million users in only two months. The fact that it can also generate essays, articles, and poetry has only added to its appeal (and controversy, in areas like education).

(taken from Reference 1)

SPECIFIC TACTICS

In implementing this AI strategy, we can define several specific tactics that emanate from the strategy and consequently ensure the achievement of the strategy. These are briefly listed below:

1. Conduct a literature search and produce a technical paper that addresses the pros and cons of the use of AI in Education.
2. Evaluate available GenAI detection software that can check documents to ascertain if they were produced using ChatGPT (or similar chatbot) or by the author. Implement the most cost-effective software as soon as possible for day-to-day academic operations.
3. Implement guidelines that are concrete enough to provide immediate direction on the best practices of GenAI in teaching and learning.
4. Train academic staff and Student Relations staff in the use of AI detention software.
5. Train administrative staff in the responsible use of ChatGPT and encourage the production of memos, letters, and other administrative documents.
6. Encourage academic staff to use ChatGPT responsibly for syllabus development i.e., teaching materials, such as presentations, course manuals, etc. ensuring accuracy and validation of such materials by the academic staff.

CONCLUDING STATEMENT

In light of our growing understanding of AI, along with new tools and techniques, we recognize the need to reevaluate best practices for responsible integration over time. As a result, these guidelines must be reviewed at least once every academic year to ensure they remain relevant. KSPT will strive to offer guidance that balances GenAI's benefits and risks to enhance teaching and learning while promoting ethical use and academic integrity.

REFERENCES

1. Mark Wilson **ChatGPT explained: everything you need to know about the AI chatbot,**
   last updated March 15, 2023,
2. **Bernard Marr The Difference Between Generative AI And Traditional AI: An Easy Explanation For Anyone**

APPENDIX

Traditional AI and Generative AI

Traditional AI: A Brief Overview

Traditional AI, often called Narrow or Weak AI, focuses on performing a specific task intelligently. It refers to systems designed to respond to a particular set of inputs. These systems have the capability to learn from data and make decisions or predictions based on that data. Imagine you're playing computer chess. The computer knows all the rules; it can predict your moves and make its own based on a pre-defined strategy. It's not inventing new ways to play chess but selecting from strategies it was programmed with. That's traditional AI - it's like a master strategist who can make smart decisions within a specific set of rules. Other examples of traditional AIs are voice assistants like Siri or Alexa, recommendation engines on Netflix or Amazon, or Google's search algorithm. These AIs have been trained to follow specific rules, do a particular job, and do it well, but they don’t create anything new.

Generative AI: The Next Frontier

Generative AI, on the other hand, can be thought of as the next generation of artificial intelligence. It's a form of AI that can create something new. Suppose you have a friend who loves telling stories. But instead of a human friend, you have an AI. You give this AI a starting line, say, 'Once upon a time, in a galaxy far away...'. The AI takes that line and generates a whole space adventure story, complete with characters, plot twists, and a thrilling conclusion. The AI creates something new from the piece of information you gave it. This is a basic example of Generative AI. It's like an imaginative friend who can come up with original, creative content. What’s more, today’s generative AI can not only create text outputs, but also images, music and even computer code. Generative AI models are trained on a set of data and learn the underlying patterns to generate new data that mirrors the training set.

Consider GPT-4, OpenAI’s language prediction model, a prime example of generative AI. Trained on vast swathes of the internet, it can produce human-like text that is almost indistinguishable from a text written by a person.

The Key Difference

The main difference between traditional AI and generative AI lies in their capabilities and application. Traditional AI systems are primarily used to analyze data and make predictions, while generative AI goes a step further by creating new data similar to its training data.