System IT Board Report
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Artificial Intelligence in Higher Education: Opportunities and Challenges

Introduction

ChatGPT's initial release in November 2022 captured the public's imagination and may well mark an inflection point in the technology industry. Software companies, both large and small, have raced to create their own AI-enabled products, producing an explosion of new tools and technologies. AI promises to discover new insights in data, automate basic tasks, and perform specialized analytical tasks. While artificial intelligence holds great promise for data rich industries like higher education, AI also produces new challenges for higher education Institutions, both inside and outside the classroom. This paper will provide awareness of key AI considerations for higher education administrators.

How AI Works

The current generation of artificial intelligence tools are essentially extremely sophisticated statistical prediction systems. ChatGPT and similar systems are trained on vast quantities of data pulled from public and private sources. They build correlations and connections within the training data and use them to generate text in response to prompts from a user. While capable of generating remarkably coherent text, it is important to remember that ChatGPT and other large language models do not actually comprehend the information being presented. This can occasionally lead them to fabricate information and produce misleading results. There are also more specialized AI systems which are trained on specific datasets and are used to discover subtle relationships within the data.

AI Opportunities

While the field is still rapidly evolving, AI promises to enhance higher education administration by automating and optimizing administrative processes. We are already seeing AI "chatbots" being used on admissions websites to answer questions from prospective students. AI tools such as Microsoft Copilot integrate with office automation tools used by most administrative employees and can draft simple messages, summarize email chains, or produce online meeting minutes. Academic software, like Grammarly can coach students through writing assignments helping them with issues of grammar and style.

Institutional research and effectiveness is a particularly promising area for artificial intelligence. Colleges typically possess a wealth of data on all aspects of college operations. IR/IE organizations are tasked with making sense of the data and presenting it to college leaders in a way that facilitates decision making. Artificial intelligence models trained on a college-specific data set can assist skilled IR/IE teams in discovering new relationships within their data and can automate repetitive analytic processes.

AI Challenges

While AI chatbots like ChatGPT certainly pose potential issues with academic integrity and are still prone to producing misleading or incorrect results, there are additional challenges which must be taken into consideration when evaluating AI technologies.

Quality and Accountability: AI systems are seldom transparent in how they work, or explainable in how they arrive at a specific result. If used, for example, to make an admissions decision, the AI system may not be capable of providing clear and comprehensible reasons or evidence for its decision.

Privacy and Security: AI systems rely on large amounts of training data to function. Public systems like ChatGPT, Google Gemini, or Bing Copilot incorporate any data submitted by a user into their training corpus. If student data, personally identifiable information, or other restricted data were submitted to one of these tools, that data could be divulged in another person's query. This can result in a data breach incident. Commercial products, especially products aimed at enterprise use, typically partition each customer's data. It is still vitally important to understand how a service stores and uses data prior to submitting any non-public data to it.

Conclusion

While still a very young technology, artificial intelligence has the potential to play a role in automating administrative processes, enhancing student learning, and providing new insights into institutional data. However, there are also challenges that must be addressed, including issues of quality, accountability, privacy, and security. It is important for higher education decision makers to carefully evaluate proposed AI technologies and to create appropriate policies and safeguards concerning their use.