



FIG Working Week 2024

19-24 May

Accra, Ghana

Your World, Our World:
Resilient Environment
and Sustainable
Resource Management
for All

Presented at the FIG Working Week 2024,
19-24 May 2024 in Accra, Ghana

HARNESSING AI CHATBOTS IN HIGHER EDUCATION FOR INNOVATIVE AND ETHICAL ADVANCEMENTS IN THE BUILT ENVIRONMENT

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Presentation outline

- Introduction
- Multifaceted roles of AI-chatbots in higher education
- Robustness of AI chatbot integration
- Identifying contents generated by AI-chatbots
- Innovative assessment methods

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Introduction

- Over the last decade, AI-driven technologies have gained prominence across industries (Arogundade, 2023), and the education sector has proved to be a dynamic testing ground for the transformative potential of AI.
- The integration of artificial intelligence (AI) into higher education is one of the most pivotal shifts and disruptive innovations in contemporary academia. As the digital age reshapes the way we live and work, it also redefines the very essence of teaching and learning (Ilieva et al., 2023).

Objectives:

- 1) Evaluate the technical and pedagogical robustness of AI chatbot systems for educational use.
- 2) Identify the advantages and potential drawbacks of using AI chatbots in higher education.
- 3) Address concerns over academic integrity and propose strategies to recognize AI-generated content.
- 4) Explore innovative assessment methods to deter unethical use of AI chatbots by students.

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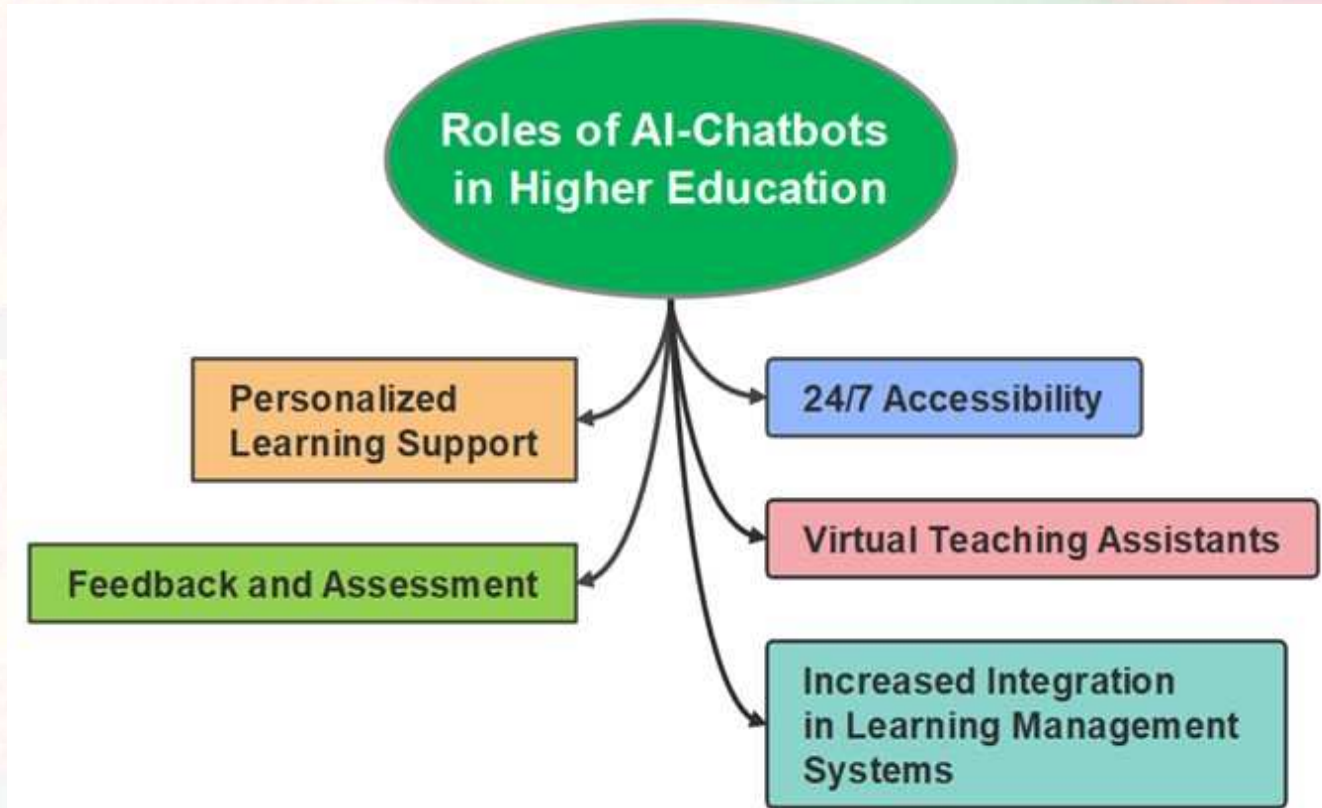
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Roles of AI Chatbots



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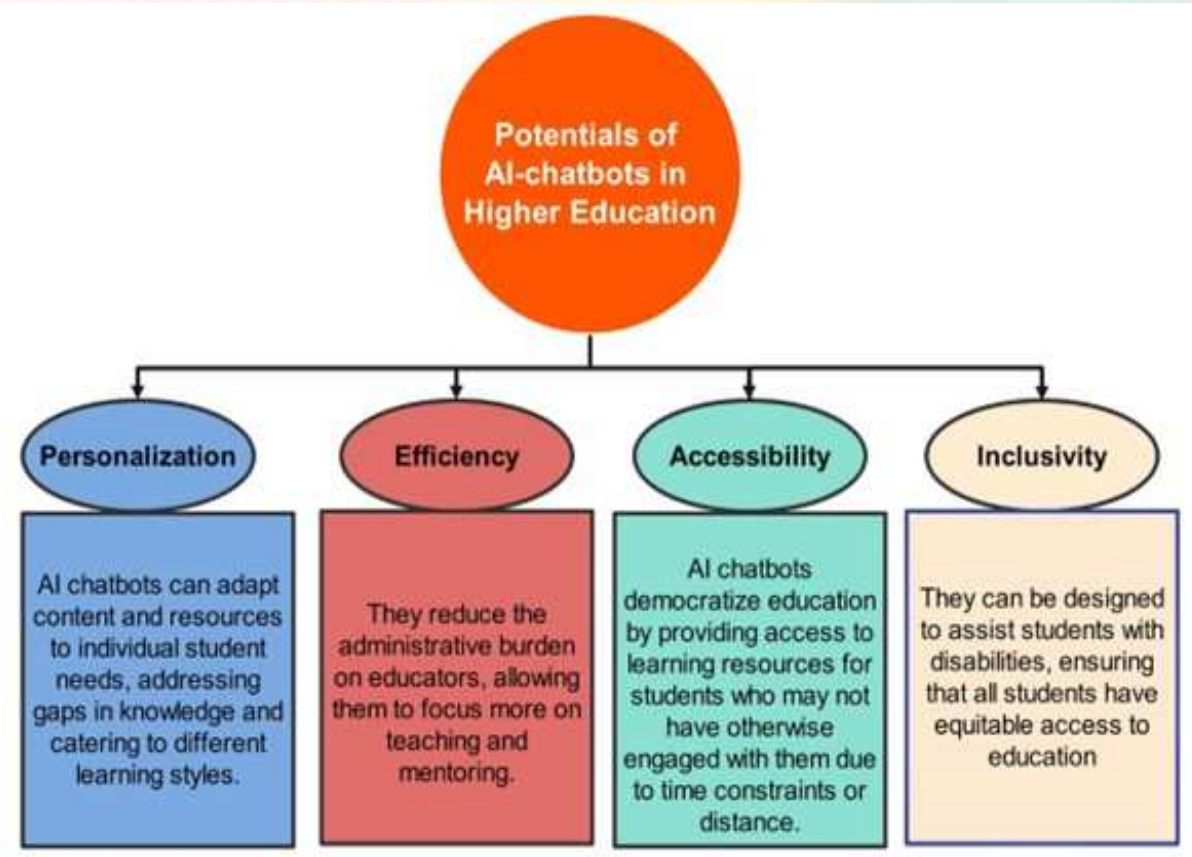
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Potential Benefits of AI Chatbots



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Considerations of AI Chatbot Integration

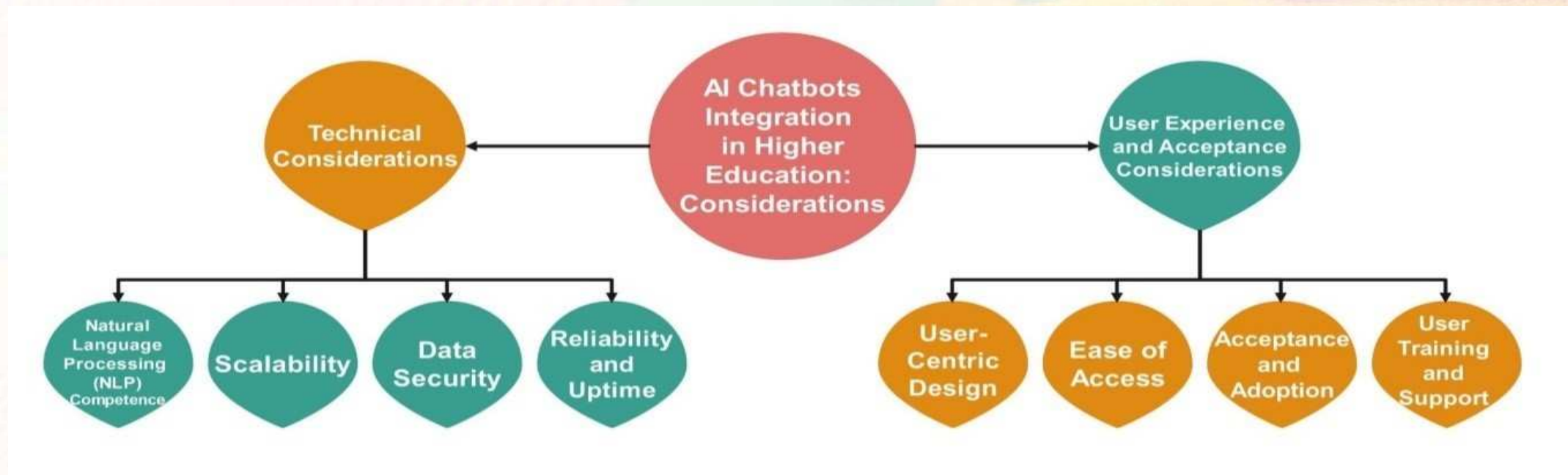




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Challenges and Potential Roadblocks

- **Potential for academic dishonesty and cheating:**
 - Students could exploit chatbots to complete assignments/exams
 - Identifying AI-generated content is increasingly challenging
- **Ethical considerations, privacy concerns, and data security:**
 - Access to student data raises privacy issues
 - Robust data protection measures required
- **Other key challenges:**
 - Resistance to change from educators and students
 - Ongoing maintenance and updates required
 - Ensuring equity and equal access across student populations

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Identifying AI-Generated Content

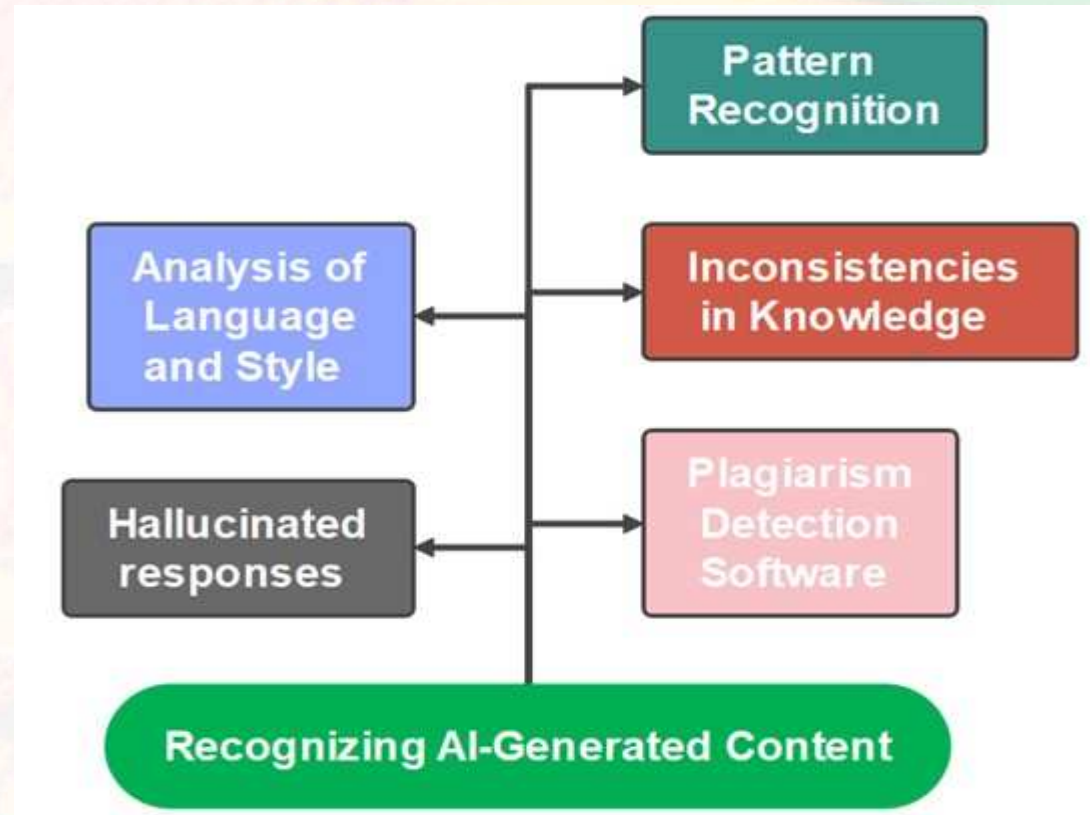




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Identifying AI-Generated Content

- Analyze syntax, vocabulary, structure for inconsistencies indicating AI generation
- Look for repeated patterns, unnatural transitions that may signal AI-generated text
- Compare content with established knowledge to identify inaccuracies or discrepancies
- Utilize plagiarism detection tools like Turnitin, Grammarly, OpenAI Classifier to flag AI-written text
- Be aware of strange or disconnected responses, a sign of AI hallucination

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Reimagining assessment in the AI era

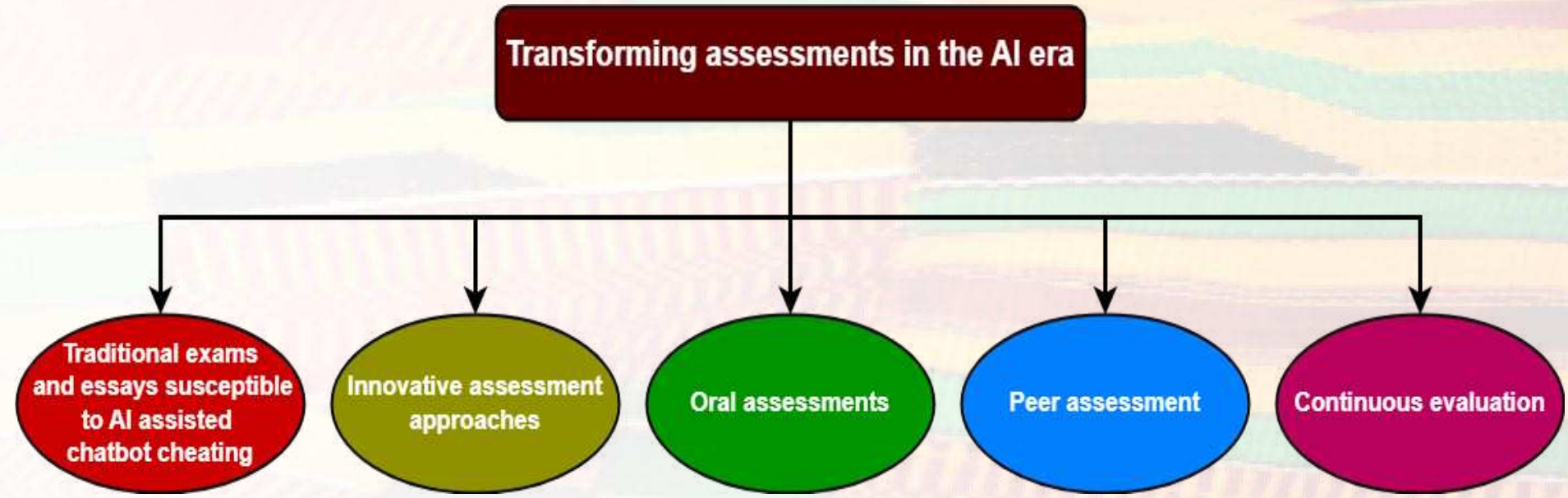




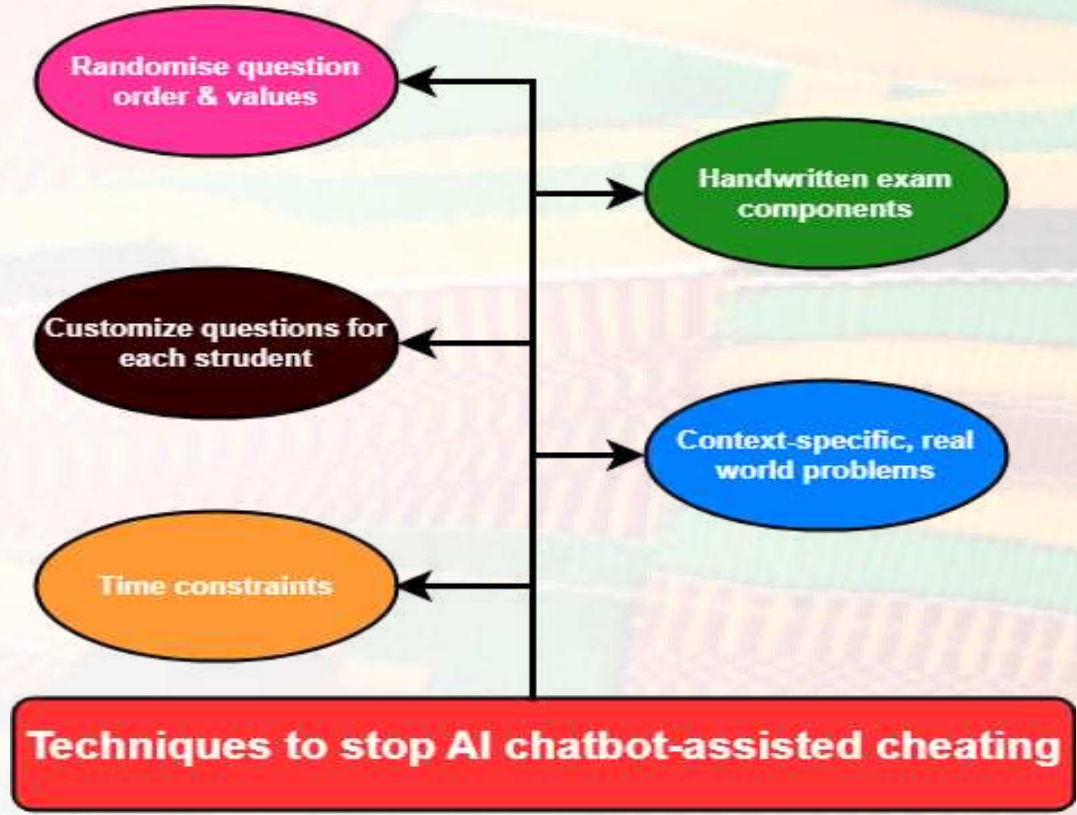
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Strategies for deterring AI chatbot cheating



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Future prospects and conclusion

- SAI chatbots poised to play an increasingly significant role in education
- Potential for revolutionary impact, especially in the built environment disciplines
- Need for balanced integration
- Augment teaching and learning, not replace human educators
- Prioritize critical thinking, creativity, human interaction

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