

A close-up photograph of a laptop keyboard with a dark, possibly black or dark blue, palm rest. The OpenAI logo, consisting of a white circular icon with a stylized knot and the text "OpenAI" in a white, sans-serif font, is prominently displayed on the palm rest. The background is slightly blurred, showing the keys of the keyboard.

Exploring the Potential Applications of AI in Quality Assurance and Enhancement in UK Higher Education

Part of the SALT & FMHLS AI in Education Seminar Series 25 May 2023



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Introduction

- What do we mean when we say “AI can revolutionize the way we approach quality assurance”? How could it increase efficiency, AND reduce staff workload?
- How can AI improve consistency, identify areas for improvement, and analyse data more effectively?
- Is it going to replace us?
- Let's dive into the exciting possibilities that AI could bring to the field of quality assurance and enhancement in higher education.

- But first...



What is Quality Assurance?

“the maintenance of a desired level of quality in a service or product, especially by means of attention to every stage of the process of delivery or production.”

<https://languages.oup.com/google-dictionary-en/>

What is Quality Enhancement?

“Continuous improvement initiatives implemented in educational institutions to enhance the quality of teaching, learning, and overall student experience.”

(Reference: Harvey, L., & Green, D. (1993). Defining Quality. *Assessment & Evaluation in Higher Education*, 18(1), 9-34.)



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It is ALL about the students



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Quality Assurance and Enhancement is critical to underpinning, delivering and constantly improving the student experience in higher education.... Which is why we're all here.



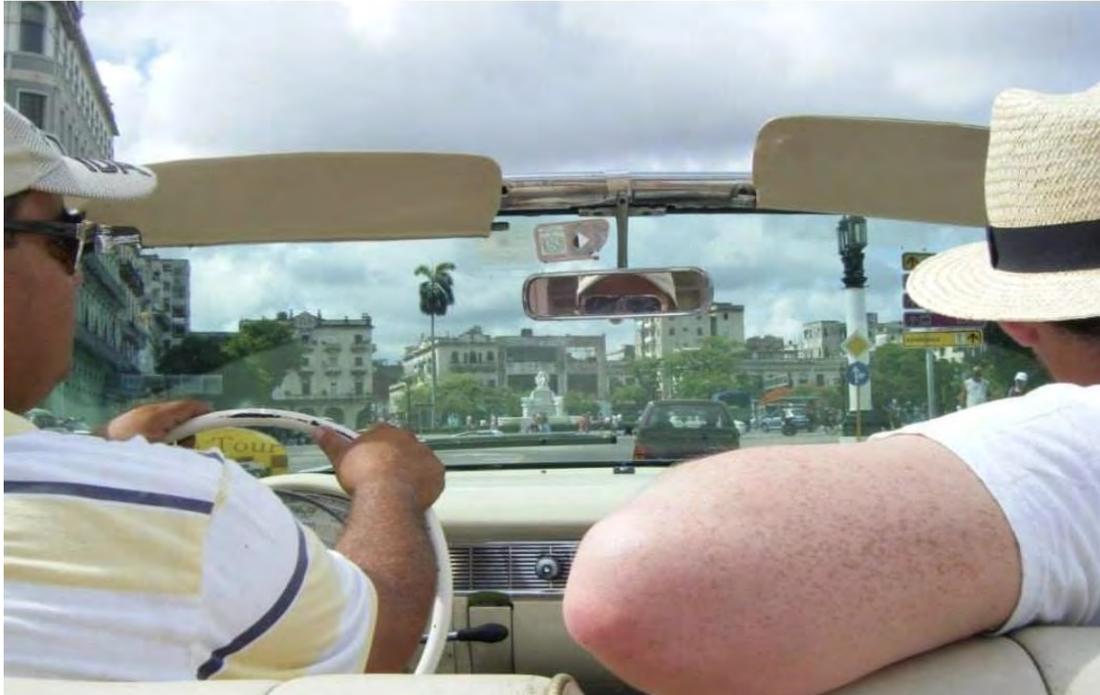
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Cuba, 2015



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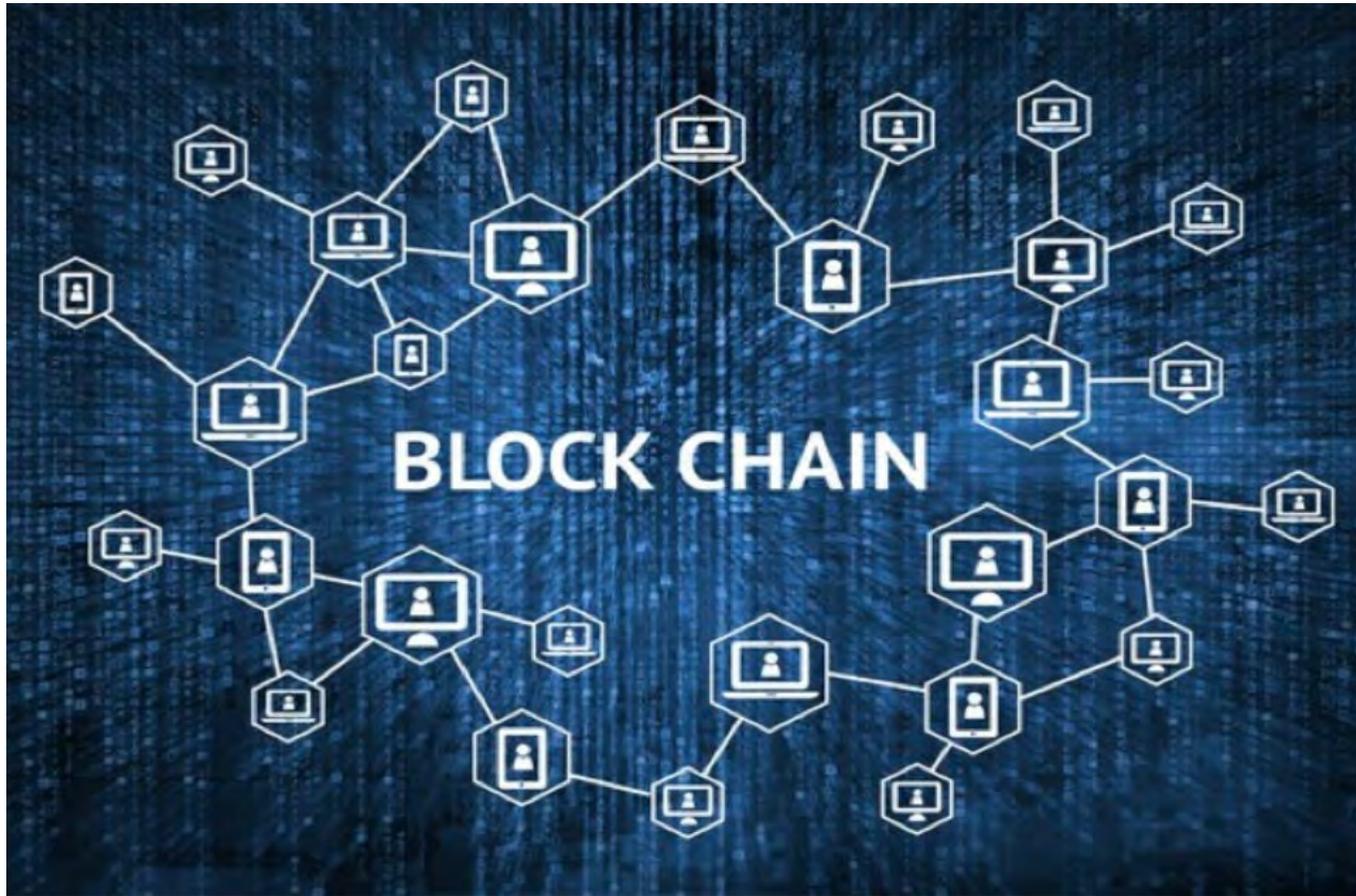
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What is Blockchain and how is that even relevant?

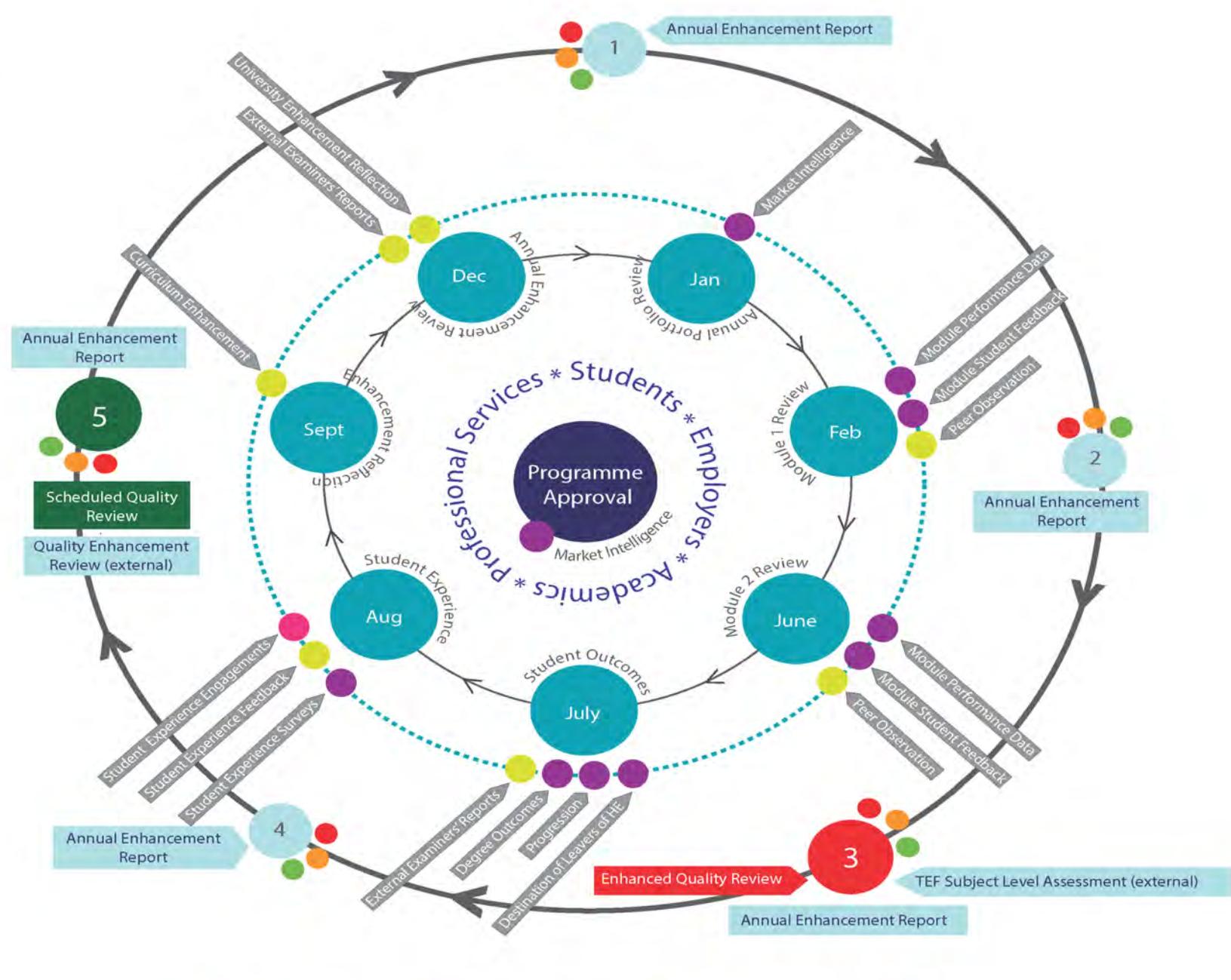


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For my next trick: Increasing Efficiency without Reducing Rigour



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AI can handle repetitive and time-consuming tasks, freeing up valuable time for academic staff to focus on higher-level activities, such as pedagogical improvement and student support, such as:

- Automate time-consuming tasks, such as data collection and analysis, allowing for more efficient quality assurance processes.
- Provide standardised guidelines and criteria for quality assurance, ensuring consistency in evaluations and assessments.
- Analyse large volumes of data quickly and accurately, reducing human error.
- Direct staff to areas which may need improvement.



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Increasing Consistency of Practice

AI can assist in establishing consistent benchmarks and criteria, promoting fairness and reliability in quality assurance practices.

By reducing the influence of individual biases and interpretations, AI helps establish a more uniform approach to quality assurance.

This consistency contributes to the objectivity of quality assurance processes across different programmes and institutions.

Standardized evaluation criteria: AI systems can provide standardized guidelines and criteria for evaluating programs and assessing learning outcomes, ensuring consistency in evaluations.

Automated assessment, marking and moderation: AI-powered tools can be employed to automate grading processes, minimising variations in assessment practices and promoting fairness.



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Reducing Staff Workload

AI can be a valuable tool in supporting academic and professional services staff, allowing them to concentrate on activities that directly impact student learning and academic excellence.

- AI can alleviate the workload burden on academic and Professional Services staff by automating administrative tasks, such as data entry and report generation.
- By streamlining routine tasks, AI enables staff to focus on high-value activities, such as curriculum development and pedagogical innovation.
- This reduction in workload can lead to increased job satisfaction, lower risk of burnout and more time dedicated to improving the overall quality of education



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Identifying Areas of Effective Practice or Areas for Improvement

AI's analytical capabilities provide valuable insights for quality enhancement, allowing institutions to identify effective strategies and address areas that require improvement

- AI can analyse vast amounts of data to identify patterns, trends, and indicators of good practice or areas for improvement.
- By analysing student feedback, performance data, and other relevant information, AI can pinpoint strengths and weaknesses within educational programs.
- This valuable insight helps institutions make data-driven decisions and implement targeted interventions for enhancement in a continuous improvement cycle.



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Effective Data Analysis: Identifying Hidden Issues and Predicting Problems before they arise



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- AI can analyse complex data sets, including unstructured data, to identify hidden issues or emerging trends that may go unnoticed by human analysis, helping institutions stay ahead of emerging issues.
- Natural Language Processing (NLP): AI-powered NLP algorithms can analyse unstructured data, such as student essays or qualitative feedback, to identify emerging themes or issues.
- Predictive analytics: AI can use predictive modelling techniques to identify potential risks or challenges based on historical data, helping institutions take proactive measures to address them.
- Intelligent decision-making support: AI systems can provide real-time insights and recommendations based on predefined criteria, enabling faster and more informed decision-making in quality assurance.



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Effective Data Analysis: Identifying Hidden Issues and Predicting Problems before they arise



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- Mining student feedback: AI can analyse student feedback, surveys, and sentiment analysis to identify trends, patterns, and areas where improvements can be made to enhance the student experience.
- Analysing student performance data: AI can analyse academic performance data, such as student assessment results, to identify areas where interventions or targeted support can enhance learning and student wellbeing.



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But How Does ANY of his relate to Quality Assurance!?

What if....





Module Title: AI and Human-Computer Interaction

Module Synopsis:

This module explores the dynamic relationship between artificial intelligence (AI) technologies and human interaction with computer systems. This interdisciplinary module offers students an in-depth understanding of AI's impact on user experience, ethical considerations, and the design principles that shape interactive systems. By blending theoretical concepts with practical applications, students will develop critical skills necessary to design, evaluate, and enhance AI-driven interfaces, fostering a human-centred approach to technology development.



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Syllabus

1. Introduction to AI and HCI: Explore the fundamental concepts, theories, and models of AI and HCI, including human cognition, perception, and interaction design principles.

2. AI Technologies: Investigate various AI technologies, such as machine learning, natural language processing, and computer vision, and examine their applications in interactive systems.

3. User Experience Design: Understand the principles of user-centred design and how they can be applied to AI-powered interfaces, considering user needs, usability, and accessibility.

4. Ethical Considerations: Examine ethical challenges and social implications associated with AI in HCI, including privacy, bias, transparency, and the impact on societal well-being.

5. Interaction Techniques: Explore different interaction modalities, including voice, gesture, and haptic interfaces, and analyse their effectiveness and suitability for AI-enabled systems.

6. Evaluation and Testing: Learn evaluation methods, such as usability testing and user feedback analysis, to assess and improve the performance and user experience of AI-based interfaces.

7. Future Directions: Investigate emerging trends and future directions in AI and HCI, including human-AI collaboration, explainable AI, and ethical design frameworks.



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Learning Outcomes

By the end of the programme, students should be able to:

- Analyse historical sources and evidence, demonstrating advanced skills in historical research and interpretation.
- critically evaluate different historical interpretations and perspectives, demonstrating the ability to construct well-supported arguments and contribute to historical debates.
- Demonstrate advanced skills in written and oral communication, effectively presenting historical information and arguments to diverse audiences.
- Apply historical knowledge and skills to real-world contexts, analysing and interpreting contemporary issues through a historical lens.



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Task: As a group, students will research and prepare an interactive presentation on a specific aspect of medieval warfare. The presentation should include the following components:



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1. Research Phase:

- a. Each group will be assigned a particular aspect of medieval warfare (e.g., weaponry, tactics, castle defence).
- b. Students should conduct thorough research using a variety of reliable sources, including academic texts, primary sources, and scholarly articles.
- c. They should critically analyse the information gathered and evaluate its historical accuracy and relevance to the topic.

1. Interactive Presentation:

- a. Students will design an interactive presentation that reflects their research findings.
- b. The presentation should incorporate diverse media, such as visuals, videos, and artifacts, to engage different approaches to learning.
- c. They should ensure that the presentation is accessible to all students, including those with visual or auditory impairments, by providing appropriate alternatives (e.g., captions, transcripts).
- d. Students should strive to represent diverse perspectives by exploring various cultures and regions within medieval warfare.

1. Inclusivity and Personal Reflection:

- a. Each student within the group should have an opportunity to contribute to the presentation based on their strengths and interests.
- b. Students should reflect on the relevance and impact of medieval warfare within the context of contemporary society, emphasizing inclusivity, tolerance, and social justice.
- c. They should consider how different communities experienced and were affected by medieval warfare, including marginalized groups such as women, peasants, and non-Western cultures.



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**Now this seems like a bad
idea....**





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futurism.com

A photograph of a professor with grey hair, seen from behind, standing in a lecture hall. He is wearing a dark suit jacket. The hall is filled with students of various ethnicities and ages, some looking towards the professor, others looking away. The seats are green and arranged in rows.

Professor Falsely Accuses Students of Cheating Because ChatGPT Told Him To

Conclusion

- AI offers tremendous potential for enhancing quality assurance and improvement in UK higher education.
- Through increased efficiency, consistency, and workload reduction, AI empowers academic staff to focus on strategic priorities and pedagogical excellence.
- Professional Services staff can spend less time on manual tasks and provide enhanced expert support to share the overall load more effectively, focused on human interaction.
- AI's data analysis capabilities enable institutions to make informed decisions, identify areas for improvement, and ensure a high standard of education.
- Embracing AI in quality assurance can lead to enhanced student experience, improved outcomes, and a more responsive and dynamic higher education sector.

But.... Is it going to replace us?



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Acknowledgments



Tom Hennessy
Mark Johncock
Rachel James

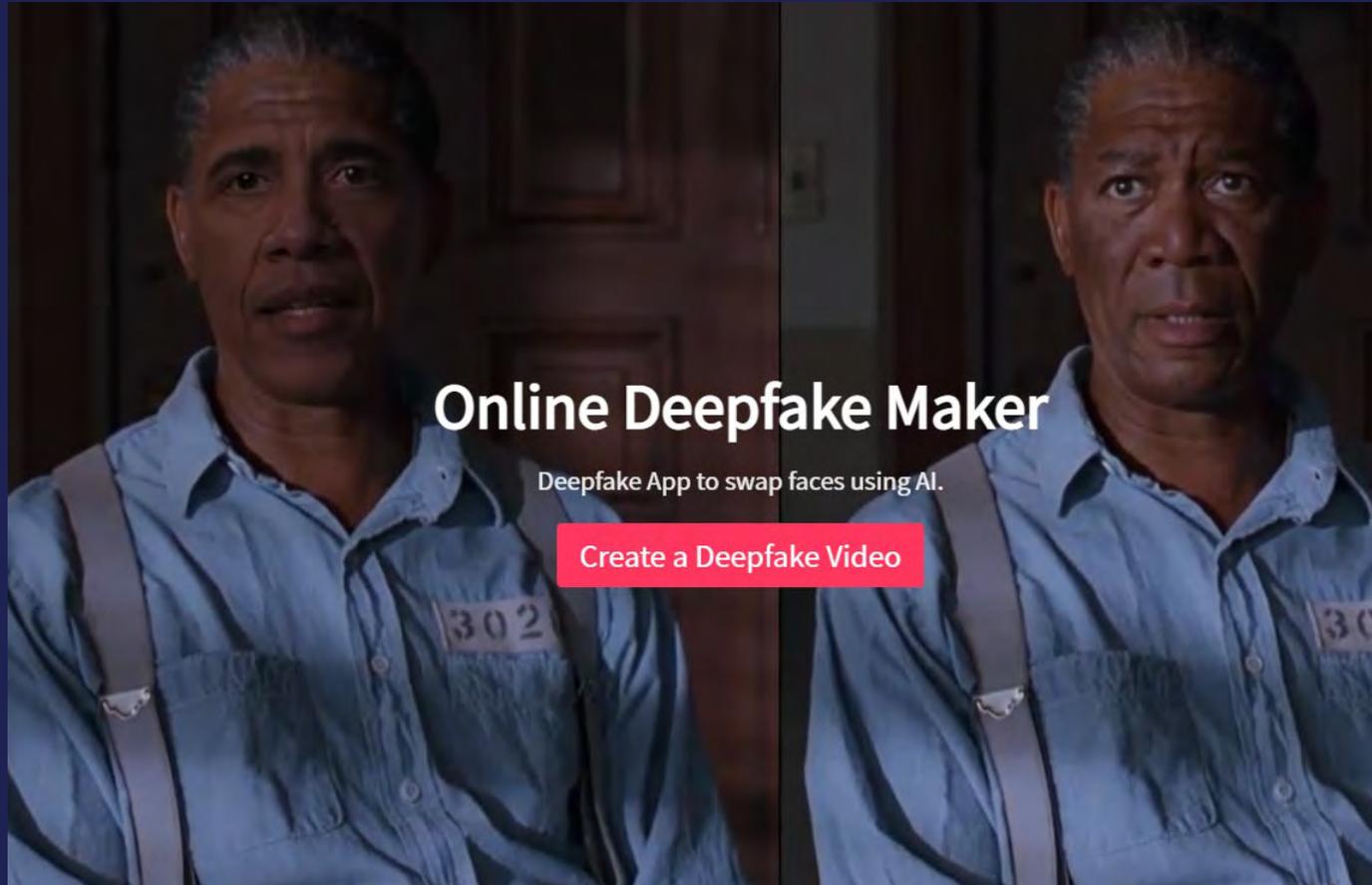


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What's Next?



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Questions and Discussion



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AI In Education Seminar Series:

Feedback: bit.ly/SALTEvaluation

Next In Series: 22 June 2023

DPVC Professor Michael Draper and Alison Braddock

AI Ethics Bias and Inclusivity: Challenges opportunities and what to look out for

staff.swansea.ac.uk/academies/salt

SALT Conference – 12 July 2023
Registration is now Open!!



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