COPE

COPE Seminar 2021

Artificial intelligence

Trustworthy AI for the
future of publishing

Tuesday 28 September, 11:00 - 12:15 (BST)

Nishchay Shah   Ibo van de Poel   Marie Soulière

#CØPE2021

Session structure

Outline of session activities

1. **Introduction of speakers**

2. **COPE's recommendations regarding AI decision making in publishing** – Marie Soulière

3. **Leveraging artificial intelligence to improve quality of publication process** – Nishchay Shah

4. **Using AI for decision support: some ethical issues** – Ibo van de Poel

5. **Questions for the panel (20 minutes)**

    -> You can type your questions for the speakers in the Q & A box (NOT the chat) at any point.
    Our moderator will compile questions, and we will go through as many as we can during question-time.

1. Introduction of speakers

Nishchay Shah
Chief Technology Officer
Head of Cactus Labs

Chief Technology Officer and Head of Cactus Labs at Cactus Communications, providing initiatives, services, and platforms designed to empower all key players in the research and publishing space in knowledge creation, communication and dissemination.

Prof. Ibo von de Poel
Professor in Ethics and Technology
TU Delft

Professor in Ethics and Technology, and Head of Department of Values, Technology & Innovation at TU Delft. Author of 150+ scholarly articles, books and chapters, his research focuses on several themes in ethics and philosophy of technology.

2. COPE's recommendations regarding AI decision making in publishing – *Marie Soulière*
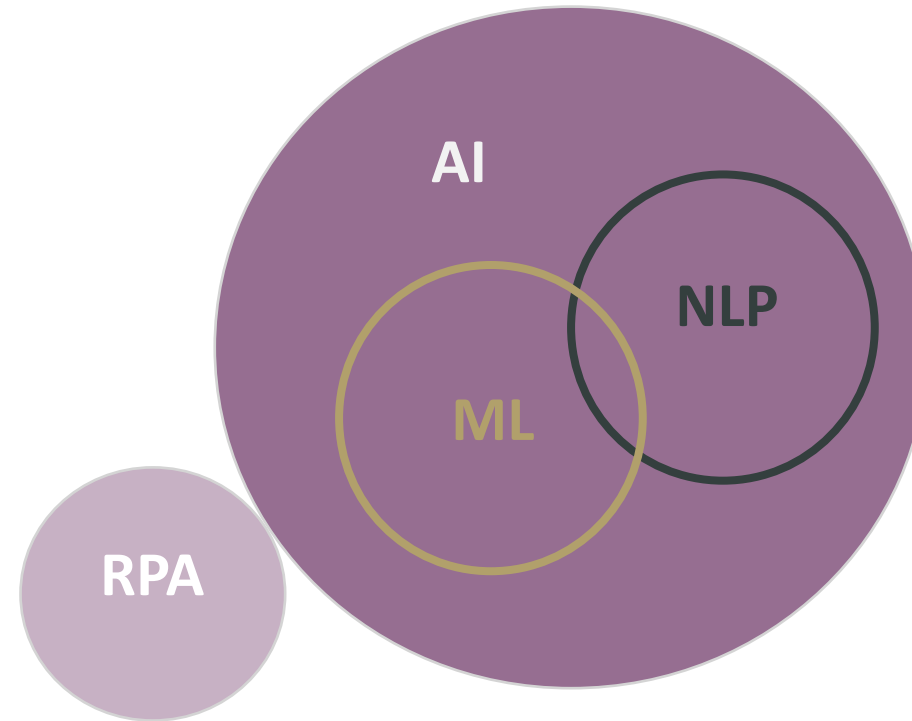
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DISCUSSION DOCUMENT:

ARTIFICIAL INTELLIGENCE (AI)
IN DECISION MAKING

DISCUSSION

What is Artificial Intelligence?

Artificial intelligence (AI): systems that exhibits behaviors or perform tasks considered 'intelligent'
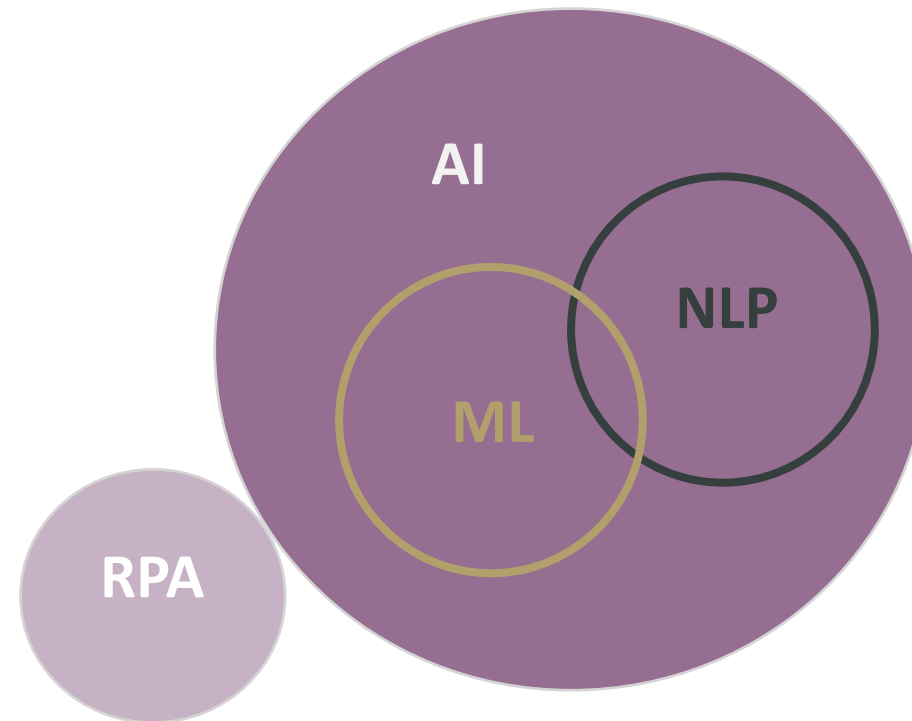
Machine Learning (ML): systems that detect patterns and use them for assessment, prediction and decision making

Natural Language Processing (NLP): systems that extract, interpret, translate, process and generate human language

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What is Artificial Intelligence?

ML and NLP are subsets of AI

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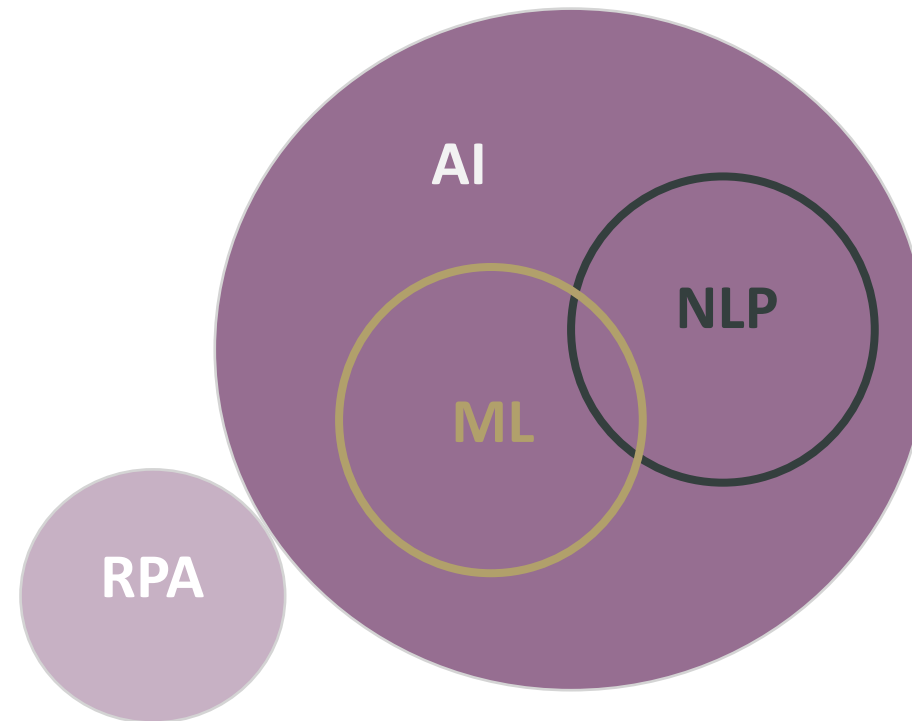
What is Artificial Intelligence?

AI

NLP

ML

RPA

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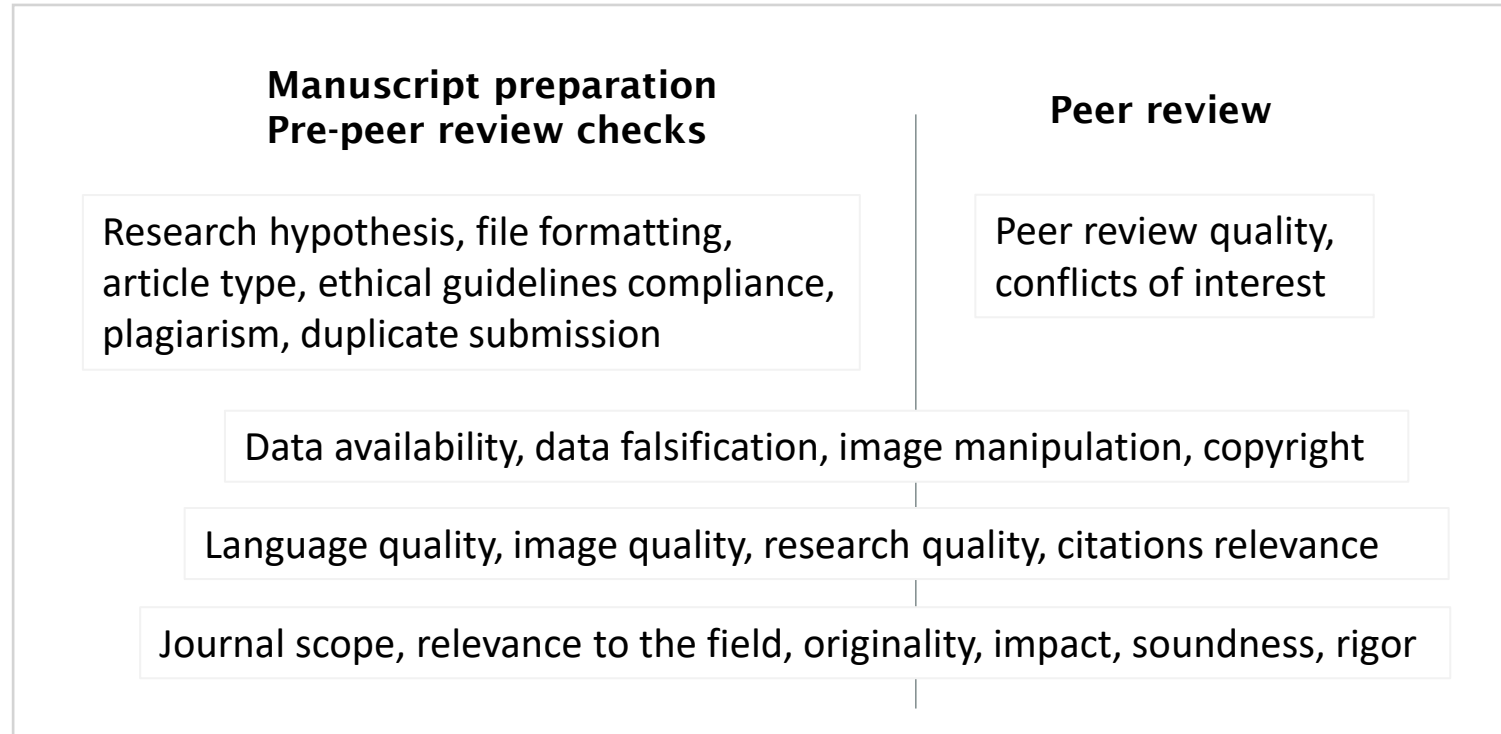
Machine Learning (ML):
systems that detect patterns and use
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Natural Language Processing (NLP):
systems that extract, interpret,
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human language

**Robotic Process
Automation (RPA):**
systems that mimic
simple human actions
to reduce repetitive,
simple tasks

ML and **NLP** are subsets of **AI**

Why use AI in publishing?

- AI has the potential to solve problems that are not easy / not possible for a human mind to solve

- AI and automation tools can help with the speed and accuracy of peer review

- AI tools might remove a level of personal bias that comes with interventions from human editors
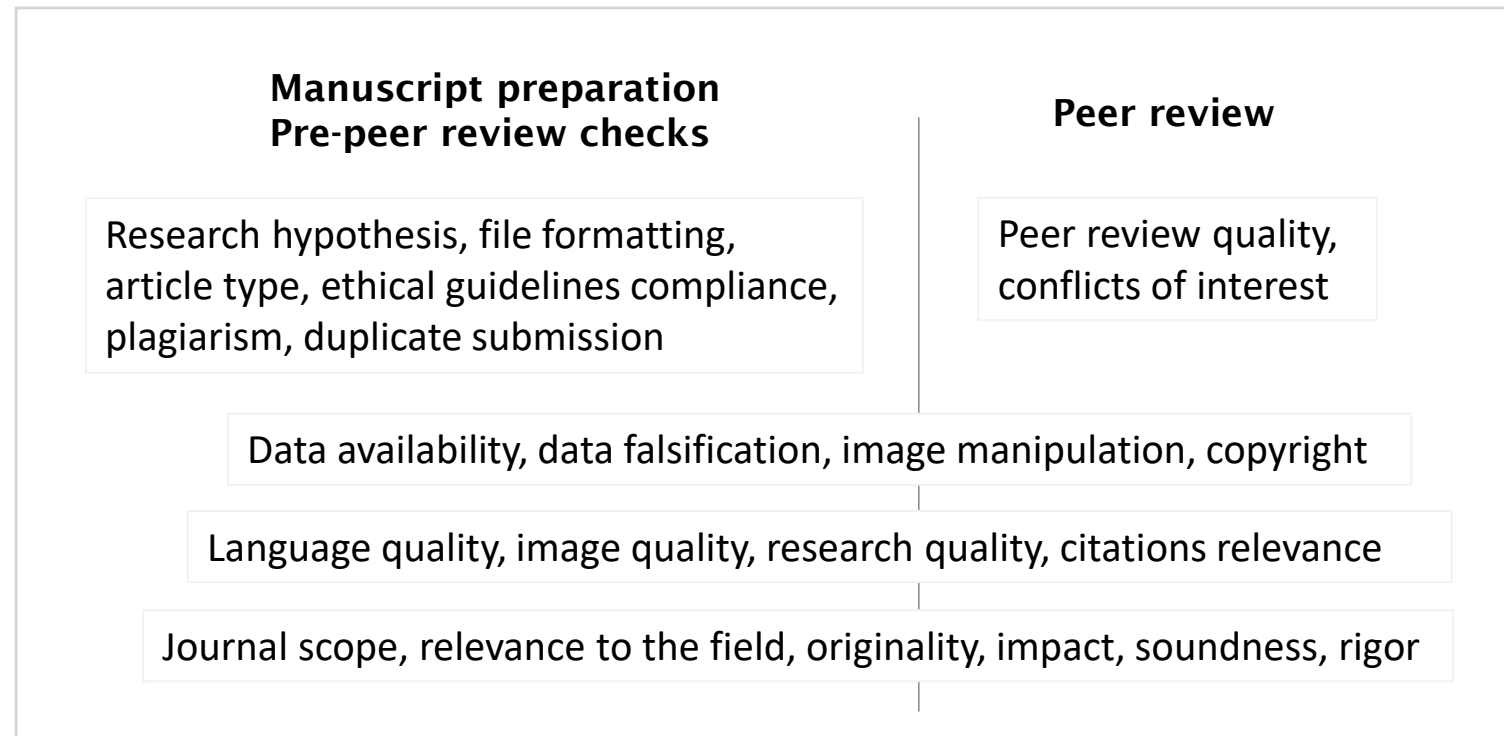
Examples of AI in publishing

**Manuscript preparation
Pre-peer review checks**

Peer review

Research hypothesis, file formatting, article type, ethical guidelines compliance, plagiarism, duplicate submission

Peer review quality, conflicts of interest

Data availability, data falsification, image manipulation, copyright

Language quality, image quality, research quality, citations relevance

Journal scope, relevance to the field, originality, impact, soundness, rigor

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What do we mean by decision-making?

Decisions on the life-cycle of a manuscripts

Considerations regarding AI autonomous decision-making:
- accountability (non-discriminatory and fair);
- responsibility (human agency and oversight);
- transparency (technical robustness and data governance).

In publishing, are there processes where full automation, AI-based decisions, or both, would be deemed unethical?

Recommendations for publishers / editors

At this stage of the development of AI, we recommend a cautious approach with respect to its adoption

- Editorial decisions that directly affect the outcome of an article (acceptance or rejection) should directly involve an editor. The decision cannot be made by an AI tool alone.
- Misconduct and research integrity evaluations leading to expressions of concerns, retractions, or contacting researchers' institutions, should also not rely solely on AI decision-making.

- AI systems should provide support for individuals to make informed choices in accordance with their role. Publishers should ensure that the editors, authors, and reviewers who use the technology are provided guidelines and details on how the AI computes the recommendations.

- Publishers should take steps to be transparent about which of their publishing processes or workflows are automated.

- Publishers should consider whether their AI tools can increase or propagate bias against various groups.

- Ultimately, the publisher remains accountable for editorial decisions, both made by AI as well as human editors.

Recommendations for authors

Know your rights

- Authors can challenge editorial decisions in accordance with the journal's standard procedures. Challenging an editorial decision that was made by AI or based on an AI recommendation should follow the same process as any editorial decision made by a human.

- Sound arguments should be presented by the authors to the journal editors or the publisher management team to highlight the ways in which the decision-making process was flawed, if treatment was unfair, or if discrimination was noticed.

- Authors also have the right to be informed about which publishing processes or workflows were automated or where AI decisions were involved.
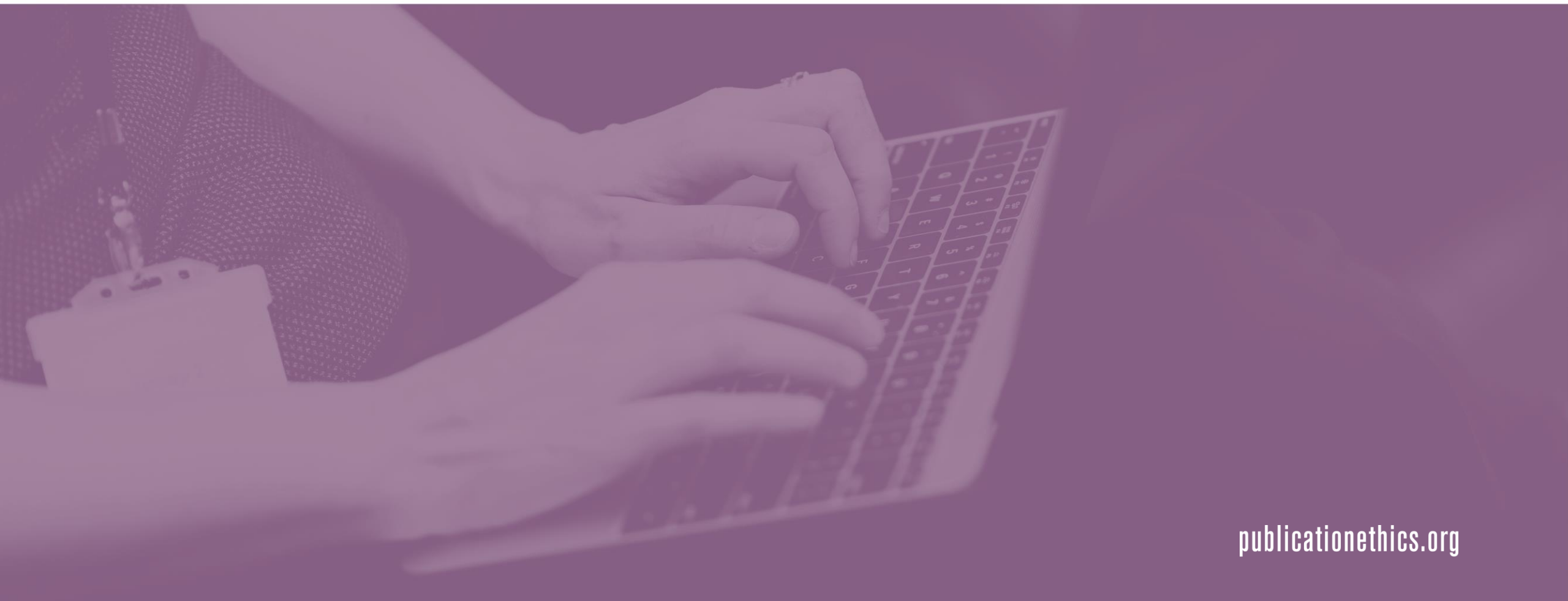
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3. Leveraging artificial intelligence to improve quality of publication process – *Nishchay Shah*

Leveraging artificial intelligence to improve quality of publication process

Nishchay Shah is part of the senior executive leadership at Cactus that oversees technology and innovation across all brands and products globally.

He is responsible for creating, translating, and mobilising big picture vision downstream. In the past few years, Nishchay had set up CACTUS' Machine Learning and Artificial Intelligence vertical, CACTUS Labs.

Using Natural Language Processing and Deep Learning, CACTUS labs has managed to achieve excellence in products such as automated English editing, translations, concept extraction, document structuring, and summarisation. They have also achieved very good breakthroughs with Image Recognition and Augmented Reality tribes.

Nishchay Shah

CTO Cactus

4. Using AI for decision support: some ethical issues – *Ibo van de Poel*

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Using AI for decision support: some ethical issues

Ibo van de Poel is Anthoni van Leeuwenhoek, Professor in Ethics and Technology at the Technical University Delft, the Netherlands.

He has published on the ethics of newly emerging technologies, such as artificial intelligence, engineering ethics, the moral acceptability of technological risks, design for values, responsible innovation, moral responsibility in research networks, and the idea of new technology as social experiment.

He currently has an ERC advanced grant on design for changing values: a theory of value change in sociotechnical systems.

Ibo van de Poel

Professor Ethics and Technology

5. Questions for the panel

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Nishchay Shah   **Ibo van de Poel**   **Marie Soulière**

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