

## **The Use of Artificial Intelligence in the work of the Federation**

Presented by Constitution and Administrative Committee (CAC)

### **SUMMARY**

This working paper proposes an ethical framework for use of AI in the work of the Federation, to provide credit to authors of original content, and reduce exposure to plagiarism and copyright infringement.

### **1. INTRODUCTION**

- 1.1. AI is becoming more and more prevalent and its use to accomplish work previously done manually by humans is increasing. AI brings the promise of many novel opportunities, but they often come with some potential challenges that will need to be tackled (University of Waterloo, 2024a).
- 1.2. When it comes to writing working papers and drafting policies, AI has the potential to enhance our work by facilitating and transforming the way we perform research, namely by creatively synthesising in a single second information gathered from a wide variety of sources (University of Glasgow, 2024). However, AI may be able to find and summarize information, it is not yet capable of critical thinking.
- 1.3. In this regard, the user remains responsible for determining if the creation of AI is suitable for the intended use and appropriately referenced, by providing the necessary oversight and critical review.
- 1.4. Whether it is ChatGPT, Microsoft Copilot or any other tool, the user should be transparent about its use and plagiarism, copyright infringement and intellectual property violations concerns do not disappear because the work has been produced by AI; appropriate citing remains absolutely essential (University of Waterloo, 2024a).

## 2. DISCUSSION

### 2.1. Definition of AI in the context of writing a working paper

- 2.1.1. AI can be used to fulfil a variety of functions. With respect to research, drafting and summarizing of a specific topic, the term “Generative AI” is the most commonly used. Columbia University (2024) defines Generative AI as follows:

*“Generative AI” includes any machine-based tool designed to consider user questions, prompts, and other inputs (e.g., text, images, videos) to generate a human-like output (e.g., a response to a question, a written document, software code, or a product design). Generative AI includes both standalone offerings such as ChatGPT, Bard, Stable Diffusion, and offerings that are embedded in other software, such as Github’s Copilot.”*

### 2.2. Risk of plagiarism and copyright infringement:

- 2.2.1. This paper already stated that tools exist on the market to detect if content has been produced using AI. However, the software currently available is unable in most cases to say where the AI gathered its information; only that the content is not human made. Inferring that AI cannot think for itself - and can only synthesise content from what it can gather over the internet - it means that what AI has created is in fact work and ideas “borrowed” from existing publications.
- 2.2.2. According to the University of Toronto (2024), the legal implications of intellectual property and copyright violations with respect to AI generated content varies significantly from one jurisdiction to another. Furthermore, these legal boundaries are blurry (at best) and evolve quite rapidly.
- 2.2.3. When using AI generated content, the author is at risk of unintendedly violating copyright or intellectual property protections for many reasons:
- Because the original content may not be referenced properly (or in some cases not at all) by AI, rendering adequate referencing in the paper nearly impossible;
  - Because even in cases where the author would like to reference the original source(s), it may not be possible to retrieve the original location of the work used by AI;
  - AI may use inaccurate information from non-scientific or non-verified sources, may paraphrase, or may even draw conclusions based on contradictory sources, rendering any attempt to cite original work impossible.

2.2.4. **In other words, AI uses content created by others, without referencing it, which constitutes plagiarism, copyright infringement, intellectual property violation, or all of these at the same time (University of Toronto, 2024).**

2.3. Detection capabilities of AI-generated content

2.3.1. What the definition above means in simple terms is that AI can generate content based on a user query or question. For example, AI could be asked to draft a working paper on the use of AI in academic, writing and research context, and to draft a policy on the subject.

2.3.2. The AI generated content, to the naked eye, would most likely look coherent and it could be difficult, without the appropriate tool, to determine whether it has been produced by a human or by a machine (Cornell University, 2024). Off-the-shelf software exists on the market to detect AI-generated content, offering various degrees of success in finding where and how much AI has been used in a given document (Harvard University, 2024).

2.3.3. The software IFATCA uses to detect plagiarism, copyright infringement and intellectual property violations in the Federation's working papers can also identify AI-generated content, and provides a percentage of the content of the working paper that has been produced by AI.

2.4. Needs and challenges associated with creating an AI policy

2.4.1. Since the content generated by AI is for the most part ideas gathered from different sources online that are not (normally) referenced, it may constitute plagiarism, copyright infringement or an intellectual property violation. During the IFATCA Conference held in Singapore in April 2024, concerns were raised by Directors during the presentation of [WP46 Plagiarism, copyright infringement and intellectual property \(Agenda Item A.9.9\)](#) with respect to the need to expand the proposed policy to cover the use of artificial intelligence in drafting working papers and other written material. This is what triggered this working paper.

2.4.2. Creating a policy that would encompass all possible uses of AI is nearly impossible, because the technology is still relatively new and is evolving rapidly, with a poor understanding of the potential consequences of misuses (Western University, 2024). A number of academic institutions are establishing policies that govern the use of AI and they all mention different principles that guide their decisions:

- Responsibility
- Safety
- Ethics
- Transparency
- Accountability
- Integrity
- Privacy
- Inclusion

2.4.3. For the purpose of this paper, AI policies from a dozen universities, mainly in North America and Europe were examined. They were all on a spectrum going from extremely restrictive (no use permitted) to extremely liberal (all uses permitted). They can generally be classified in four categories, as follows:

**No specific restriction or conditions** - this is the policy of “denial”, where no framework is established. The risk with this kind of policy is obviously plagiarism, since there is no requirement to properly identify what content has been created with AI and what references were used.

**Extremely restrictive policy** - this is the policy that forbids all uses of AI. While such policy solves plagiarism problems altogether, it is not adapted to the evolving domain of AI, and it is not allowing IFATCA to take advantage of the full potential of AI.

**Extremely liberal policy** - this type of policy offers a loose framework where citing of sources used by AI is not required, or the policy simply requires to cite ChatGPT or other tools as the source. By not referencing properly the original author of the work, it exposes the author and IFATCA to possible plagiarism, copyright infringements, or intellectual property violations.

**Balanced policy:** this is the kind of policy most universities researched have adopted so far. The usage of AI is permitted, but constrained in a clear and precise framework. Citing original sources is mandatory, and it is the responsibility of the author to identify which segments are AI-generated and what material AI has been using. The framework also identifies a list of acceptable and non-acceptable uses of AI.

## 2.5. Acceptable and unacceptable uses of AI

- 2.5.1. Building on what has been said above, a cautious but permissive approach is probably the best way forward for IFATCA. To determine the basis of what that policy may look like, it is important to differentiate circumstances where the use of AI is permitted from those situations where it should be prohibited.
- 2.5.2. AI can prove to be extremely useful in a variety of cases, and therefore should be permitted when writing working papers. Such situations include (University of Essex, 2024):
- To research ideas and organize them in a logical sequence;
  - To create unique images and visuals that do not breach copyrights;
  - To assist in the review of human-made content, namely by correcting spelling mistakes and grammar;
  - To summarize complex elements of a working paper in an easy to understand manner;
  - To translate text; etc.
- 2.5.3. While AI can be useful to assist the writing, it should never replace original content, created and verified manually by the author. Therefore, certain usage shall be avoided, such as (University of Nebraska-Lincoln, 2024):
- To generate content for working papers (copy-pasting AI text, and/or not referencing the sources of such text);
  - To generate images or visuals that are fake, misleading or erroneous, such as presenting facts or people or events as real, when they are not;
  - To plagiarize content without referencing it; etc.
- 2.5.4. These two lists are obviously non-exhaustive and only represent a few examples of what should be permitted and what should not. However, the spirit emerging from these examples remains: AI should remain an assistant and should not be used to do the work entirely. It is also important to keep in mind that the author remains responsible for what they write, including proper referencing and other ethical and legal considerations.

## 2.6. How to avoid improper use of AI

- 2.6.1. Given the rapidly evolving nature of AI and the relatively scarce scientific literature available to help inform our decisions, the boundaries between what is acceptable and what is not may be at times blurry.

- 2.6.2. The University of Essex (2024) proposes guidance to help authors avoid improper uses of AI. They reiterate the importance of citing all sources and referencing them in the bibliography for all non-original content. This also applies to content generated by AI that will undoubtedly contain sources not clearly identified as such by AI.
- 2.6.3. Authors should always create their own, original content. AI can assist in the research, as mentioned above, but any use of AI should be clearly identified in the working paper, even when it was not used to create the text itself.
- 2.6.4. AI should never be used to generate data (numbers, statistics, empirical evidence, etc.). Raw data should always be retrieved directly from a trusted, original source.
- 2.6.5. Authors should always be transparent about their use of AI and it is a good practice to keep notes during the preparation of working papers, in particular for the research part. Should suspicions be raised with respect to the origins of the content, it would then be easy to prove that the content is original, or to identify where and from whom it was sourced.

## 2.7. Citing and referencing AI as a source

- 2.7.1. One of the main issues with respect to citing AI generated content is that the results offered by AI algorithms cannot be retrieved by the reader. For example, if the prompt used is “RVSM definition”, it may as well be that two different authors using that same prompt will get different results, depending on the day the query was made (since the sources gathered by AI may have changed) (American Psychological Association [APA], 2024).
- 2.7.2. It is therefore important that the author describes how AI was used, which tools were chosen and why, and what prompts were identified to query the AI. And again, given the non-reproducible nature of AI queries, it is essential to cite both the AI algorithm and the references used by AI.
- 2.7.3. The APA is amongst the most common referencing systems used around the globe. Their website proposes excellent guidance material and numerous examples to guide authors with citing and referencing AI. The simplest way is to indicate which prompt was used and what was the AI response:

When prompted with “Is the left brain right brain divide real or a metaphor?” the ChatGPT-generated text indicated that although the two brain hemispheres are somewhat specialized, “the notation that people can be characterized as ‘left-brained’ or ‘right-brained’ is considered to be an oversimplification and a popular myth” (OpenAI, 2023).

**And the associated reference would be as follows:**

OpenAI. (2023). ChatGPT (Mar 14 version) [Large language model]. <https://chat.openai.com/chat>

**Where the sequence of elements would be:**

Author of the model. (Year). *Name of the model* (Date) [Large language model]. <https://url.of.the.model.com>

- 2.7.4. On their website, the APA (2024) proposes more detailed guidance and examples on specific cases, on the use of parenthetical vs narrative citations, etc. when citing AI. Additionally, for authors wishing to use other referencing models, the University of Waterloo (2024b) proposes a quick reference guide to help authors cite AI in APA, Chicago, IEEE, JAMA and MLA styles. Both APA and University of Waterloo links can be found in the bibliography at the end of this working paper.

2.8. Risk of plagiarism and copyright infringement:

- 2.8.1. This paper already stated that tools exist on the market to detect if content has been produced using AI. However, the software currently available is unable in most cases to say where the AI gathered its information; only that the content is not human made. Inferring that AI cannot think for itself - and can only synthesise content from what it can gather over the internet - it means that what AI has created is in fact work and ideas “borrowed” from existing publications.
- 2.8.2. According to the University of Toronto (2024), the legal implications of intellectual property and copyright violations with respect to AI generated content varies significantly from one jurisdiction to another. Furthermore, these legal boundaries are blurry (at best) and evolve quite rapidly.

2.8.3. When using AI generated content, the author is at risk of unintendedly violating copyright or intellectual property protections for many reasons:

- Because the original content may not be referenced properly (or in some cases not at all) by AI, rendering adequate referencing in the paper nearly impossible;
- Because even in cases where the author would like to reference the original source(s), it may not be possible to retrieve the original location of the work used by AI;
- AI may use inaccurate information from non-scientific or non-verified sources, may paraphrase, or may even draw conclusions based on contradictory sources, rendering any attempt to cite original work impossible.

2.8.4. **In other words, AI uses content created by others, without referencing it, which constitutes plagiarism, copyright infringement, intellectual property violation, or all of these at the same time (University of Toronto, 2024).**

2.9. IFATCA's existing policy on plagiarism, copyright infringement and intellectual property

2.9.1. The Federation has adopted, during its annual Conference in Singapore, the following policy (IFATCA, 2024):

*IFATCA recognizes that academic, scientific, and professional dishonesty is a denial of ethical values, as it undermines the credibility of research and is a negation of sound academic practice.*

*Unethical research and writing practices undermine the purpose of and the goals IFATCA is pursuing. Dishonest practices may cast doubt on IFATCA's ability to promote sound and efficient professional work and research.*

*IFATCA encourages and empowers all contributors to IFATCA's work (including but not limited to the executive board, the standing committees, ICAO representatives, volunteers, experts, etc.) to uphold ethical standards, and to give the Federation the power it needs to act in cases where contraventions of ethical academic standards occur.*

*The present policy and accompanying guidance material, as contained in the IFATCA Blue Book, aim to provide information and guidelines to recognize potential situations where intellectual property may be compromised, recognize the consequences of such violations, and prevent them from happening. The guidance material also contains tools to assist with adequate and sufficient referencing of sources. (Singapore 24. A.11)*



- 2.9.2. The policy is believed to be broad enough to encompass AI and its usage and doesn't need to be updated at this time. However, the guidance material contained in the Blue Book should be complemented by the text proposed in the Recommendation section of this working paper.

### 3. CONCLUSION

- 3.1. The contours of AI legislation and its usage are still not clearly defined and the barriers to protect intellectual property and copyright are, when AI generated content is used, porous, to say the least.
- 3.2. While IFATCA wishes to make the best use of all the AI tools and algorithms that are (and will be) available online, it is also IFATCA's responsibility to protect the Federation and its volunteers from inadvertent breaches of intellectual property rights, copyright infringements and plagiarism.
- 3.3. As very accurately summarized in the guidance material on generative AI produced by the University of Chicago (2024):

*“AI-generated content may be misleading or inaccurate. Generative AI technology may create citations to content that does not exist. Responses from generative AI tools may contain content and materials from other authors and may be copyrighted.”*

- 3.4. For all these reasons, it is ultimately the responsibility of the author of the working paper to ensure not only the accuracy of the content, but also that proper citing and referencing is produced to give credit to the original creators of the work used in the paper.
- 3.5. Finally, it is IFATCA's responsibility to put in place a framework to help and guide its membership on the use of AI in the work of the Federation.

### 4. RECOMMENDATIONS

- 4.1. It is recommended that:
  - 4.1.1. the IFATCA Blue Book is amended to incorporate the text presented in Annex A to this working paper
  - 4.1.2. the new text should be positioned after the existing 14.6, as a new 14.7 (the existing 14.7 and 14.8 would be renumbered accordingly)
  - 4.1.3. the “Reference” guidelines on the IFATCA website are amended to include the examples provided in 2.6.3 of this working paper.

## 5. REFERENCES

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## Appendix A - proposed addition to the IFATCA Blue Book

### 14.7 Use of Artificial Intelligence (AI) in the work of the Federation

#### 14.7.1 Purpose

The current section on AI is designed to guide the use of Generative AI by IFATCA volunteers in the context of their work for the Federation, in particular when writing working papers and other material. It is meant to be read and understood in conjunction with the remainder of the content of Part 14 of the Blue Book, which it complements.

#### 14.7.2 Generative AI in the context of writing working papers and other material

With respect to research, drafting and summarizing of a specific topic, the term “Generative AI” is the most commonly used. Generative AI can be defined as follows:

*“Generative AI includes any machine-based tool designed to consider user questions, prompts, and other inputs (e.g., text, images, videos) to generate a human-like output (e.g., a response to a question, a written document, software code, or a product design). Generative AI includes both standalone offerings such as ChatGPT, Bard, Stable Diffusion, and offerings that are embedded in other software, such as Github’s Copilot” (Columbia University, 2024).*

#### 14.7.3 Appropriate use of Generative AI

AI can prove to be extremely useful in a variety of cases, and therefore should be permitted when writing working papers. Such situations include, but are not limited to (University of Essex, 2024):

- To research ideas and organize them in a logical sequence;
- To create unique images and visuals that do not breach copyrights;
- To assist in the review of human-made content, namely by correcting spelling mistakes and grammar;
- To summarize complex elements of a paper in an easy to understand manner;
- To translate text; etc.

#### 14.7.4 Inappropriate use of Generative AI

While AI can be useful to assist the writing, it should never replace original content, created and verified manually by the author. Therefore, certain usage shall be avoided, such as, but not limited to (University of Nebraska-Lincoln, 2024):

- To generate content for working papers (copy-pasting AI text, and/or not referencing the sources of such text);
- To generate images or visuals that are fake, misleading or erroneous, such as presenting facts or people or events as real, when they are not;
- To plagiarize content without referencing it; etc.

### 14.7.5 Considerations when using AI

Given the rapidly evolving nature of AI and the relatively scarce scientific literature available to help inform authors' decisions, the boundaries between what is acceptable and what is not may be at times blurry. But some general considerations do exist when using AI generated content in working papers (University of Essex, 2024):

- Authors should always cite and reference all sources in the bibliography for all non-original content cannot be overstated. This also applies to content generated by AI that will undoubtedly contain sources not clearly identified as such by AI.
- Authors should always create their own, original content. AI can assist in the research, as mentioned above, but any use of AI should be clearly identified in the working paper, even when it was not used to create the text itself.
- AI should never be used to generate data (numbers, statistics, empirical evidence, etc.). Raw data should always be retrieved directly from a trusted, original source.
- Authors should always be transparent about their use of AI and it is a good practice to keep notes during the preparation of working papers, in particular for the research part. Should suspicions be raised with respect to the origins of the content, it would then be easy to prove that the content is original, or to identify where and from whom it was sourced.

### 14.7.6 Plagiarism and AI

The legal implications of intellectual property and copyright violations with respect to AI generated content varies significantly from one jurisdiction to another. Furthermore, these legal boundaries are blurry (at best) and evolve quite rapidly (University of Toronto, 2024).

When using AI generated content, the author is at risk of unintentionally violating copyright or intellectual property protections for many reasons:

- Because the original content may not be referenced properly (or in some cases not at all) by AI, rendering adequate referencing in the paper nearly impossible;
- Because even in cases where the author would like to reference the original source(s), it may not be possible to retrieve the location of the work used by AI;
- AI may use inaccurate information from non-scientific or non-verified sources, may paraphrase, or may even draw conclusions based on contradictory sources, rendering any attempt to cite original work impossible.

**AI uses content created by others, without referencing it, which constitutes plagiarism, copyright infringement, intellectual property violation, or all of these at the same time (University of Toronto, 2024). For this reason recommendations presented in 14.7.5 above should always be followed by authors of IFATCA working papers.**

[EDITORIAL NOTE - ADD THE FOLLOWING REFERENCES TO 14.8 - REFERENCES:]

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