

The framework of using artificial intelligence tools in teaching, student work, and research at the University of Zagreb Faculty of Organization and Informatics

University of Zagreb Faculty of Organization and Informatics (in the following text: FOI) recognizes the significant role of artificial intelligence (AI) tools in shaping and improving learning, teaching, and scientific research activities. Therefore, FOI promotes the use of AI tools as a means of stimulating innovation and creativity within the academic community, while simultaneously ensuring that the use of these tools is carried out in a responsible, ethically acceptable, and legally regulated manner.

Recognizing the importance and potential of AI tools in the academic environment, especially the tools of generative artificial intelligence (Gen AI) as a computer technology that creates data that look or sound as if they were created by a human being, FOI is committed to ensuring that the use of these technologies is in accordance with high ethical, educational and scientific standards. In line with the aforementioned, the principles of using AI at FOI are defined as follows:

- **FOI actively supports the development of competencies of students, teaching and scientific-teaching staff in the use of AI tools.** This support includes acquiring skills necessary for ethical and efficient use of AI, with an emphasis on understanding the possibilities and limitations of AI technologies.
- **The use of AI must be in accordance with ethical norms, respecting privacy, intellectual property, and the legislative framework.** AI tools cannot be recognized as authors of publications or cited in the same way as individuals. Users of AI tools are responsible for verifying the accuracy and sources of information, as well as potential biases in the data obtained through AI.
- **It is necessary to use the AI tools in a transparent manner in academic activities.** This includes clearly stating usage of AI in the methodology of work, data analysis, information sources, or acknowledgments. It is unacceptable to represent content generated by AI as exclusively one's own work without appropriate attribution.
- **Teachers can define more detailed instructions about the allowed use of AI tools for individual student activities,** including permissions or restrictions in use during exams or other graded work. Using AI contrary to the teacher's instructions will be considered academic dishonesty.
- **At any moment, the protection of personal and sensitive data must be ensured in accordance with relevant legal regulations.** AI tools should never be used for processing and/or storing personal data without appropriate privacy protection measures.

- **Researchers are obliged to consult publishers and research funding bodies about guidelines for using AI** in publishing research results, ensuring that ethical and professional standards are fully respected.

FOI commits to regular updating and alignment of its regulations, instructions and other relevant documents with current practice and technological standards in the field of artificial intelligence. This includes detailed instructions on the use of AI tools in specific contexts, such as teaching, student work, and scientific research.

FOI confirms that AI systems are in accordance with the current European regulation (*Act on Artificial Intelligence*) classified as unacceptable or high-risk systems (for example, for independent evaluation of student knowledge or for monitoring and detecting unacceptable behavior during exams without supervision and verification by teaching staff) will not be used as part of teaching activities.

Through this framework, FOI commits to promote ethical, responsible, and legally regulated use of artificial intelligence tools, with the aim of improving academic excellence and integrity. Adapting and applying these principles will ensure that the use of AI technologies at FOI remains in the service of academic progress, respecting intellectual property, ethical norms, and legal requirements

Guidelines for using AI in student works

FOI students are allowed to use AI tools in teaching and learning, but in a way that is in accordance with the principles stated in this document. Students are allowed to use AI tools in a similar way as using references, images or texts that are not related to artificial intelligence, but are found in scientific and professional papers or by searching the internet. Students should describe usage of AI tools in the chapter on methodology (for example, the name and version of the tool used, queries used, session correspondence, etc.) or at another appropriate place.

That means:

1. The student can not submit content that is generated by the AI tool without indicating how the AI tool was used. If students use AI tools for generating, sketching, creating, fundamentally revising, or creating any part of the student work, they must describe how they used it and cite the tool, clearly stating which part of the work was generated by the AI tool.
2. The student needs to critically evaluate and check the results and sources generated using the AI tools, and take all necessary steps to correct potential biases and inaccuracies in the generated results.

3. The student can not use sensitive and private data when prompting AI tools if it is not in accordance with appropriate norms and legislative framework.

In case of doubts regarding the use of AI tools, it is necessary to consult with the teacher or mentor who will provide more detailed instructions.

Sometimes there is a need to show inputs for generative artificial intelligence tools and obtained results. The whole process is facilitated by the fact that most AI tools have an export or share option for a specific conversation that the user has with the tool in a way that a link can be created where all messages of a conversation that the user had with the AI are provided

Guidelines for using AI in teaching

The application of AI tools in the teaching process should be aimed at improving the quality of education, developing the digital competencies of teachers and students, and encouraging innovative and critical approaches to learning and teaching.

When integrating AI tools into the teaching process, it is important to ensure transparency in their use and limitations, and to clearly communicate to students and other participants of the educational process the purpose and manner of their application. Teachers should be aware of potential limitations and challenges associated with accuracy, bias and ethical dilemmas that may arise when using AI and actively work on their addressing through critical evaluation and selective application of tools.

AI tools can be helpful to teachers in, for example, planning lessons and creating teaching materials. It is important to keep in mind that companies developing these tools do not provide complete information about the databases and the material on which the tools are trained. Databases are large, but they have a time-limited data corpus, which may mean that the tools are not always updated with current information. In addition, there may be problems with bias and inaccuracies in the model itself. Therefore, it is important to emphasize that material generated by AI tools should be carefully reviewed to truly encompass the content of the course and learning objectives.

The responsibility for the content generated using AI remains with the authors, i.e., teachers who use these tools for the preparation and development of teaching materials. When AI tools are used in the creation of teaching and other materials, it is necessary to clearly indicate when and how AI contributed to the creation of a certain part of the material, especially if the contribution was significant, all while respecting copyright and ethical standards. For example, automatic translation from one language to another, correction of spelling, grammatical or stylistic errors, automatic removal of the background in a picture or common filters for image manipulation, etc.,

are not considered a significant contribution, while, for example, the direct generation of textual content, creation of a summary of a text corpus or generation of a graphic representation or multimedia content based on instructions represents a significant contribution and as such should be emphasized in an appropriate way in the work itself. Using AI must not replace thorough academic preparation and individual teacher effort in creating content that reflects the objectives and learning outcomes of the course.

The use of technologies based on artificial intelligence is allowed as a support for teaching and learning unless the teacher decides otherwise. The teacher can decide on the limits of using technology for certain tasks if it requires achieving the course outcomes. If the teacher decides to limit or enable the use of artificial intelligence, clear instructions, grading criteria, and timing guidelines must be provided so that the student can perform the task. The student is obliged to adhere to the practice of academic writing. Upon the teacher's request, the student is obliged to describe how and/or why AI technology was used to solve the task. When designing a course, a teacher must ensure that students are not put at a disadvantage. This implies that the teacher cannot require a student to purchase licenses for using AI technologies and tools. The exclusive use of AI tools for verifying the authenticity of content is not allowed.

The application of AI in teaching should be in accordance with relevant legal frameworks, including data protection and privacy rights, which is of particular importance in the context of processing and analyzing student data.

Guidelines for using AI in scientific research and professional work

FOI is committed to ensuring the integrity of scientific work, promoting innovation, and respecting the rules of publishers, privacy, confidentiality, and ethical standards in the use of AI tools in research. FOI encourages a critical approach to the use of technology, ensuring that the use of AI tools complements, rather than replaces, the skills and intuition of the researcher.

Accordingly, it is necessary for researchers to: (1) find ways for effective use of AI tools in research, (2) be aware that the use of AI tools does not constitute plagiarism (although AI tools can produce plagiarized text), (3) quantify the potential bias of the content created by AI tools, (4) be cautious when using AI tools due to the potential generation of incorrect data (so-called hallucinations), and (5) encourage the use of AI tools in research as an academically, ethically and legally acceptable and responsible tool.

According to the policies of leading scientific publishers, AI tools cannot be recognized as authors due to the lack of ability to take responsibility for the content. Therefore, it is imperative that every work involving the use of generative AI technologies clearly identifies the individuals who take the corresponding responsibility for the work. Authors are obliged to transparently list all

the tools used during the research, including details of use in the work methodology, accompanying letter and/or acknowledgments.

In accordance with the recommendations and practices of reputable publishers, FOI emphasizes the importance of transparency in the use of AI. All details of use, including prompts, tools used and their versions, must be clearly stated. In addition, authors are responsible for identifying and mitigating bias, as well as ensuring accuracy and avoiding plagiarism.

It is necessary to approach the use of images and multimedia generated by AI with caution. Express permission from the publisher or copyright owner is required when using such material, except in cases where the content is legally created or explicitly directed towards AI research. This is in line with the policies of the largest publishers that emphasize the importance of adhering to copyright laws and ethical standards in publishing

Reviewers are not recommended to use AI tools, but if they use them in the review process, they are obliged to transparently declare any AI assistance, taking into account limitations and potential confidentiality issues.

FOI promotes responsible use of AI technologies in research, with an emphasis on transparency, ethics, and respect for intellectual property. Every researcher is called upon to adhere to these guidelines, taking into account the recommendations and policies of the publisher or source of research funding, in order to collectively contribute to the development of the scientific community and the maintenance of high academic excellence standards.

In Varaždin, 12. April 2024.

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