Maastricht University

**Policy Framework
Generative Artificial Intelligence**

December 2024

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Introduction

This policy framework sets out Maastricht University's (UM) position and vision on the use of generative AI (GenAI),[1] particularly large language models (LLMs), in education, research and operations. *GenAI* refers to AI models that can autonomously generate content based on the data on which they have been trained. Unlike traditional AI models, which are designed to recognise patterns and make predictions, GenAI creates new content in the form of images, text, audio and more. The best-known types of GenAI are LLMs, such as ChatGPT, Google Gemini and Microsoft Co-Pilot for interaction with and assistance from a chatbot, and DALL-E for image generation.

The rise of these AI applications offers many opportunities for organisational innovation. Given the rapid technological developments, it is essential for UM to anticipate the influence AI applications will have—and are already having—on our education, research and operations. Users need to be aware not only of the benefits and opportunities offered by GenAI, but also of the potential risks and disadvantages. This policy framework has been developed to clarify how UM as a whole wishes to approach the use of GenAI.

GenAI encompasses a range of promising tools, which, if implemented and used responsibly, can:

- boost productivity for staff by saving time and streamlining processes, such as administration and registration
- support teachers and researchers in developing new ideas, analysing (big) data faster and more accurately, and reducing data-collection costs
- enhance students' learning and study experience and better equip them for a rapidly changing job market
- help teachers and researchers to communicate effectively, for example by generating striking visuals or colloquial explanations to convey complex material.

Despite this potential, the use of GenAI is accompanied by various risks and limitations:

- lack of reliability: the information generated is often presented as fact, but regularly contains misleading information ('AI hallucination')
- lack of (data) accountability: AI-generated audio, video and text is difficult to distinguish from original content, and the use of GenAI is not always indicated
- risk of plagiarism: at present, it is not fully possible to detect plagiarism committed through the use of GenAI, an issue exacerbated by the fact that staff and students are often unfamiliar with the limitations of and usage guidelines for GenAI
- risk of unlawful use of personal data: all processing of personal data must comply with laws and regulations, which may be violated—with the ensuing consequences—when personal data is used in GenAI applications or (unintentionally) obtained and processed through GenAI applications
- lack of privacy and data protection: confidential information used as input for GenAI tools is not always adequately protected from disclosure. In particular, information entered into free GenAI applications in effect becomes public data, which can pose risks to individuals and the organisation
- intellectual property issues: IP-protected data entered into a GenAI tool can be used to generate 'new' material. The information generated is used, in turn, as training data authored by you, which can circumvent the copyright and IP rights of the original authors
- unintentional bias and discrimination: because GenAI tools are trained on data that may contain human error and bias, they can reproduce and reinforce these biases

• environmental considerations: GenAI models require a great deal of computing power to run, resulting in high energy consumption. UM users should be aware that research shows the use of GenAI often has a harmful effect on the environment.[2,3]

In addition to these general risks of GenAI, specific and justified concerns have been raised in the UM community. GenAI tools are easy for students to access, but there is a lack of clarity about the extent to which they are permitted to use these tools. Teachers worry about fraud when GenAI is used in exams and about the increased workload involved in making education 'GenAI proof.' Researchers need guidelines for the responsible use of AI applications in their research. And in our operations, ethical and privacy-related issues need to be addressed to ensure that AI applications are used in a safe and secure manner in compliance with existing and future AI regulations.

This policy framework sets out UM's position on GenAI and formulates guidelines for the domains of education, research and operations. These guidelines are necessarily of a general nature. While the policy framework cannot comprehensively answer all questions about the use of GenAI within our organisation, it lays the groundwork for a more detailed elaboration of various topics. Such elaboration should facilitate implementation of the guidelines and describe good practices in all domains. Preferably, it will be drafted in partnership with experts from all faculties and support units, making optimal use of the existing expertise at UM. Faculties will be asked to specify their own working methods in the context of the general guidelines, and to exchange knowledge and good practices with other faculties and service centres. Thus, the present policy framework will continue to evolve.

The forthcoming elaborations will be widely disseminated within the university, either as appendices to this policy framework or via a widely accessible website within the university.

This GenAI policy framework consists of (1) UM's position on GenAI;(2) Guidelines for the use of GenAI; (3) Appendix A: relevant laws and regulations related to GenAI.

UM's position on GenAI

UM's position with regard to GenAI is that of the early majority[4] for the benefit of the domains (1) education, (2) research and (3) operations. It is important to note that this is a disruptive technology that is already being used by early adopters.[5] Disruptive technologies have a major impact on existing ways of working or even make them obsolete. This impact on the three aforementioned domains can vary.

UM is committed to the ethical and responsible use of GenAI and to preparing staff and students for a world increasingly supported by AI.
The effect of GenAI (LLM) is widely felt across the three domains.

We aim to ensure that GenAI applications benefit staff and students by developing, innovating and clarifying work practices and processes with a view to serve as a support for the UM community. This vision aligns with UM's digitalization strategy.[6] While we aim to support GenAI applications to enrich and support the community, we also aim to adhere to UM's core values: diversity and inclusion, sustainability, mutual respect, integrity, democratic principles, and transparency.

In education, innovative applications of GenAI can improve and enrich teaching and learning experiences. In terms of research, there are opportunities to enhance productivity, analyse large datasets, develop potential research directions, and present research in an accessible manner.

Whenever AI applications are used, the emphasis is on developing future-oriented skills among staff and students that enable them to take advantage of these innovative technologies within an ethical framework.

Guidelines for using GenAI

I. General

1. As part of the 'early majority,' UM takes a proactive attitude to implementing GenAI into its existing work practices and processes. Rather than prohibiting the technology, we facilitate and encourage its use where relevant in education, research and operations.

2. GenAI is used at all times in compliance with applicable laws and regulations. Where specific laws and regulations are lacking, we act in the spirit of those that do exist. An overview of relevant laws and regulations can be found in Appendix A. This list is not exhaustive, and the application of the laws and regulations contained therein depends on the context in which GenAI tools are used.

3. We strive for the safe and responsible use of GenAI by:
a. paying attention to ethical aspects such as academic rigour and integrity;
b. protecting students, staff and the institution from abuse;
c. promoting equal opportunities;
d. emphasising accountability in data use;
e. facilitating education and training for staff and students on the effective and ethical use of GenAI.

4. GenAI is implemented with a focus on improving existing and developing new work practices and processes by:
a. developing an unambiguous terminological framework and connecting it to existing (architectural) frameworks;
b. studying and experimenting with new applications of GenAI and sharing best practices;
c. monitoring the impact of GenAI on existing processes.

II. Education

UM places great value on high-quality education. The use of GenAI must dovetail with the four pillars of our educational vision: problem-based, small-scale, international and socially relevant.

1. GenAI use needs to provide added value from both an educational and a pedagogical perspective by enriching teaching and learning experiences. For example, among students it can promote critical thinking, problem-solving skills or the practical application of new skills. For teachers, it can offer creative opportunities in the development and preparation of teaching materials. Teachers are allowed to use GenAI in the creation and preparation of their educational materials Teachers are responsible for the quality of the work they produce using GenAI and mindful of its limitations. GenAI is never used with personal or organisation-sensitive data in the absence of transparency about how these data are processed and used and without safeguarding that all applicable conditions have been met for the use of GenAI.

2. When GenAI is used in education, we strive for equal access to AI applications for all students and staff. Students must also have equal opportunities in terms of educational performance. (See also I.3c.)

3. The use of GenAI in education is evaluated regularly with a view to its effectiveness. Evaluations also take into account the attitudes of staff and students.

4. Teaching staff are supported in their use of GenAI through specific and explicit professionalisation activities related to the pillars of UM's educational vision, constructive alignment and CCCS (constructive, collaborative, contextual and self-directed).

5. Students are supported by specific and explicit additional training or instructions in GenAI in order to be able to perform the required educational activities. It is the responsibility of the study programme and the faculty to ensure that students are sufficiently well-versed in specific AI applications to carry out these activities.

II-A. Intended learning objectives
The effect of GenAI on the intended learning objectives (ILOs) is to be evaluated on a programme-by-programme basis. Where possible, evaluations are carried out jointly, focusing on:

6. Complementing the current ILOs on traditional academic skills with relevant ILOs on the development of skills related to GenAI.

7. Ensuring the relevance of the current ILOs to the changing professional field (e.g. altered or obsolescent work processes).

II-B. Educational activities
If GenAI is used for educational activities, the following preconditions must be observed:

8. Users are facilitated in the appropriate use of GenAI. They are aware of appropriate applications of the technology and alert to its limitations.
a. Students receive training and instructions on how to use GenAI for educational purposes. This includes information on common pitfalls of GenAI tools, such as subjective and biased or discriminatory output.
b. Teachers are offered continuing professional development and other activities related to the use of GenAI.

9. Permitted uses of GenAI are clearly defined at every relevant level: activity, course/module, study programme and faculty.

II-C. Assessment
The effects of GenAI in terms of assessment should be investigated and (counter)measures taken where necessary.

10. Assessments and examination materials need to be evaluated with a view to constructive alignment (with ILOs and educational activities), reliability, validity, and transparency with the use of GenAI in mind.

11. Study programmes need to consider how examination boards will be able to determine that students have personally attained the ILOs, given permitted use of GenAI.

12. Definitions of fraud and plagiarism are revised in the context of GenAI, and rules developed with regard to permitted uses.

13. The rules and guidelines of the relevant examination boards are followed at all times.

14. The EU considers AI systems for marking/evaluating assessments and selection and admission procedures 'high risk' systems.[7] These AI systems may only be used under certain mandatory conditions. These conditions must be thoroughly investigated at UM before AI systems can be used to assess students or assist in selection and admission procedures.

III. Research

UM is committed to promoting ethical and responsible use of GenAI among researchers of all disciplines and experience levels, from student researchers working on internship or graduation projects to PhD candidates and professors. These research guidelines concern the use of GenAI; they do not apply to research on/technical development of GenAI models or their applications. In the current EU AI act, these types of GenAI developments or applications within universities are exempted from strict regulations,

as long as they are not used for commercial purposes (see appendix A). Although these types of research activities are currently exempt from strict regulations, it is important for UM that all research activities involving GenAI comply with our core values as an institution.

1. Researchers hold final accountability for the ethical use of GenAI tools in their research and act in accordance with the Netherlands Code of Conduct for Research Integrity,[8] rules on the processing of personal data[9] and all UM codes of conduct and policy,[10] including the code of conduct for data management.[11] Extra caution is required when processing non-anonymized personal data or privacy-sensitive information, with strict adherence to applicable regulations (see Appendix A) and, if necessary, approval from the ethics committee. To avoid potential breaches of confidentiality, researchers should also be aware that existing confidentiality agreements may apply to unpublished research when using GenAI.

2. Researchers need to have a solid understanding of the capabilities and limitations of GenAI models/applications. This does not require advanced technical expertise, but should suffice to enable them to use GenAI in their research in an ethical and responsible manner. To this end, researchers are supported through specific and explicit training and/or instructions. It is the responsibility of the research group and the faculty to ensure that researchers have sufficient understanding of the impact and implications of using specific GenAI applications, to be able to conduct their research properly.

3. The output of GenAI must always be critically assessed with regard to technical and ethical limitations and their potential consequences for the quality and reliability of the research.

4. Researchers are transparent about substantial use of GenAI in their research. This includes clear communication about the use of GenAI with supervisors, collaboration partners and other relevant stakeholders in all phases of the research and as regards all research output (articles, theses, books, etc.). The use of GenAI should be referenced appropriately by researchers.[12] Furthermore, it is important that researchers disclose the use of GenAI during ethical review by the UM ethical committees (if applicable).

IV. Operations

Beyond education and research, UM strives to facilitate the responsible use of GenAI in the day-to-day work of all employees.

1. GenAI tools are never used to process personal or organisation-sensitive data in the absence of transparency about how these data are used and without safeguarding that all applicable conditions for the use of GenAI have been met. The existing rules on the handling of personal and organisation-sensitive data apply, such as the provisions on confidentiality from the employment contract. Sensitive data may not be shared with third parties. As free, unsecured AI tools are regarded as unauthorised third parties, sharing information with such tools essentially means making that information public, which amounts to a data breach.

2. Employees are responsible at all times for the quality of the work they deliver with the help of GenAI. To this end, they are supported in performing their work activities through specific and explicit training and/or instructions on the use of GenAI.

3. The impact of the use of GenAI on UM's work and operations is evaluated regularly.

4. Employees are offered training and information on the effective, ethical, and safe use of GenAI tools.

Use cases
For each of the mentioned domains, examples of suitable use cases for GenAI use will be further elaborated and shared through a widely accessible website. It is important to note that these are just examples, and they will be expanded over time as new use cases emerge.

Appendix A

Laws and regulations applicable to the use of GenAI at UM
December 2024

This appendix outlines the existing laws and regulations that pertain to the use of GenAI. It is intended to provide a broad overview for individuals who wish to make use of GenAI tools. It is by no means exhaustive and will continue to evolve. Additionally, the type of work performed often influences which rules are applicable; employees are thus advised to focus on legislation that affects their own work in the context of GenAI.

Many of these laws and regulations do not (yet) explicitly mention the use of GenAI. However, we can draw inferences about their application with regard to GenAI based on context and in conjunction with other legislation.

EU AI Act[13]
The EU AI Act has a significant impact on how universities should deal with GenAI. The following aspects are relevant for UM.

1. High-risk GenAI systems
Certain applications are classified as 'high-risk' AI systems when used in education and vocational training. This includes systems that are used to:
• select students for admission to study programmes or educational institutions
• evaluate student learning outcomes
• assess the appropriate level of education for individual students
• monitor and detect prohibited student behaviour during exams.

AI systems that are classified as 'high risk' may only be used under certain mandatory conditions. Only when both parties meet these conditions can high-risk AI systems be used for the above applications.

2. Training in digital skills
GenAI tools offer opportunities to foster high-quality digital education. They enable students and teachers to acquire and share digital skills and competences, such as media literacy and critical thinking, which are crucial for active participation in the economy, society and democratic processes.

3. Bias, discrimination and other flaws in GenAI systems
The implementation of GenAI can have far-reaching consequences for students' educational and professional careers. GenAI tools that are poorly designed or used inappropriately may perpetuate historical patterns of discrimination, to the detriment of women, people from certain age groups, people with disabilities, people of a certain sexual orientation, or people of a given racial or ethnic origin. All users in the UM community should be alert to these shortcomings.

4. Applicability and exceptions
The Act does not apply to R&D activities related to GenAI systems before they are launched on the market or put into service. This affords UM the space to study, develop and test AI technologies without having to comply with the strict provisions of the Act, as long as these technologies are not used commercially. In addition, the Act does not apply to AI systems developed solely for R&D purposes. This exemption is intended to preserve scientific freedom and innovation.

Higher Education and Research Act (WHW)[14]
At present, the WHW does not explicitly refer to the use of AI systems, but it does touch on a number of topics that relate to the use of GenAI. While GenAI tools offer opportunities to improve education, there are—based on key topics in the WHW in conjunction with the EU AI Act—a number of points of attention.

1. Study programmes and quality assurance
If used appropriately, GenAI can enhance the quality and effectiveness of education. Within the framework of the law, there is room to experiment and innovate with GenAI, but attention should be paid to the limitations of GenAI tools, such as potential bias and prejudice.

2. Selection and admission
GenAI systems may exhibit bias and prejudice when used during selection and admission procedures. This can lead to inequality and unintentional discrimination, which educational institutions must avoid at all times. This is one of the main reasons that the use of AI systems for selection and admission is labelled 'high risk' in the EU AI Act.

3. Ethics
AI-generated content must be carefully verified to ensure its integrity and reliability when used in education and research. Article 27 of the EU AI Act refers to the ethics guidelines drawn up by the independent High-Level Expert Group on Artificial Intelligence (AI HLEG). These guidelines list seven requirements that AI systems should meet: human agency and oversight; technical robustness and safety; privacy and data governance; transparency; diversity, non-discrimination and fairness; social and environmental wellbeing; and accountability.

4. Transparency and accountability
To maintain the trust of staff and students, educational institutions must be transparent about the use of GenAI in the domains of education, research and operations. Pursuant to Article 50 of the EU AI Act, providers and controllers of certain AI systems must also meet various transparency obligations.

5. AI literacy
In line with Article 4 of the EU AI Act, employees who use AI systems must develop relevant AI literacy and be trained in the responsible and effective use of GenAI tools. This includes both technical skills and awareness of the ethical and legal implications of GenAI. Students who are expected to use AI systems should also be trained in AI literacy.

General Data Protection Regulation (GDPR)[15]
Privacy is of great importance when using GenAI tools. The Dutch Data Protection Authority is already mapping risks. In addition, the following points of attention from the GDPR are important to keep in mind.

1. Processing of personal data and rights of data subjects
GenAI tools often process large amounts of text, which may include personal data such as names, email addresses or other identifiable information. Pursuant to the GDPR, parties that process personal data, including educational institutions, must ensure that any such processing is lawful, fair and transparent. Concretely, this means that whenever they process data, users must consider in what way and under what conditions their actions are lawful (e.g. having a legal basis and applying data minimisation).

Individuals also have the right to be informed about the use of their personal data. Thus, identifiable information should not be entered into GenAI tools as long as it is not entirely clear what these tools do with such data. If it eventually becomes possible to use personal data securely in GenAI tools, data subjects must be facilitated in exercising their rights, including the right to object and the right to erasure.

Article 69 of the EU AI Act sets out the following requirements for the processing of personal data: *'The right to privacy and to protection of personal data must be guaranteed throughout the entire lifecycle of the AI system. In this regard, the principles of data minimisation and data protection by design and by default, as set out in Union data protection law, are applicable when personal data are processed. Measures taken by providers to ensure compliance with those principles may include not only anonymisation and encryption, but also the use of technology that permits algorithms to be brought to the data and allows training of AI systems without the transmission between parties or copying of the raw or structured data themselves, without prejudice to the requirements on data governance provided for in this Regulation.'*

2. Data-processing agreements
When UM commissions the provider of a GenAI tool to process personal data on the university's behalf, a formal data-processing agreement must be drawn up, including safeguards for data retention, access, security and—importantly— protocols to follow in the event of a data breach. Furthermore, UM would do well to make agreements with providers about the careful processing of personal data whenever such data will be exchanged, even if processing of personal data is not the main purpose of the use of GenAI in the context of this partnership.

3. Retention of and access to data
The GDPR requires personal data to be kept for no longer than is necessary for the purpose for which it was collected. Identifiable information must therefore not be used in GenAI tools when there is no control over the retention period or what happens to the data. If it eventually becomes possible to use personal data securely in GenAI tools and retain control over this data, UM must establish a clear retention period and set up a protocol for the subsequent deletion of the data.

4. Security of personal data
The GDPR requires parties that process personal data, including educational institutions, to take appropriate technical and organisational measures to protect personal data from unauthorised access, loss or disclosure. This means that GenAI tools and the infrastructure they run on must meet strict security requirements. Essential measures include encryption, pseudonymisation and regular security audits.

Copyright Act[16]
The Dutch Copyright Act deals with the protection and use of intellectual property. Copyright law has a clear link with GenAI tools.

1. Copyright on training data
Individuals who wish to use copyrighted material as input for a GenAI tool must have permission from the copyright holder or ensure that the material is subject to an appropriate license. Permission is not necessary if there are relevant exceptions or limitations to copyright.

2. Citations
When using GenAI tools to create content for academic publications or education, the user must ensure that the AI-generated material meets the conditions for citation, attribution and transparency. The right of quotation allows for the limited use of protected material, but the number and size of the quotes must be justified. This comes into play when GenAI tools use brief snippets of protected works.

3. Liability
Individuals should be aware at all times of AI-generated output used in their works and publications, as copyright infringements could result in claims for compensation of damages.

Trade Secrets Protection Act (WBB)
This law is aimed at preventing the unlawful acquisition, use or disclosure of otherwise undisclosed business information. The use of GenAI tools increases the risk of unwittingly disclosing protected data. Users must be aware of what data should not be shared and exercise caution with what they enter into GenAI tools. This is in line with the advice set out in the GDPR. University staff must comply with the provisions of their employment contract. GenAI tools are regarded as unauthorised third parties: organisation-sensitive information cannot be used as input in the absence of certainty that this information will not be shared.

Netherlands Code of Conduct for Research Integrity[17]
The Netherlands Code of Conduct for Research Integrity of 2018 provides a normative framework for important principles and duties of care when conducting research. Several provisions are relevant to the use of GenAI.

1. Research integrity
The Code of Conduct emphasises the fundamental principles of honesty, caution, transparency, independence and responsibility. The use of GenAI must comply with these principles to safeguard research integrity and maintain trust in academic research. This means AI-generated text and data must be transparent and methodologically sound.

2. Data management and privacy
The regulations on data management in the Code of Conduct are relevant for the use of GenAI, particularly given the large amounts of data required to train LLMs. Universities must uphold the principles of ethical data management and protection, which means complying with privacy and data-governance laws such as the GDPR at all times.

3. Training and supervision
The Code of Conduct emphasises the importance of providing researchers with adequate training and supervision. This is particularly important in the context of complex technologies such as GenAI. UM should provide training in ethics and methodology to all staff and researchers who wish to use GenAI in their work.

4. Ethics and accountability
In accordance with the Code of Conduct, institutions must establish an ethical research culture and procedures. This means explicitly including ethical considerations, such as bias and the impact of GenAI on societal values, in the research process. Ethics committees may need to be consulted before conducting research using these technologies.

5. Institutional duty of care
Institutions are required to create an environment that promotes good research practices. This means universities are responsible for ensuring that GenAI tools are used responsibly and are evaluated regularly with a view to their ethical and societal impact.

Endnotes

[1]This policy framework for GenAI can serve as a template for the development of future policy frameworks related to disruptive technologies; these often concern digital or data innovations, where issues such as information security and processing of personal data are at stake.

[2] Li, P., Yang, J., Islam, M. A., & Ren, S. (2023). Making AI less 'thirsty': Uncovering and addressing the secret water footprint of AI models. *arXiv preprint arXiv:2304.03271.*

[3]George, A. S., George, A. H., & Martin, A. G. (2023). The environmental impact of AI: A case study of water consumption by Chat GPT. *Partners Universal International Innovation Journal*, *1*(2), 97-104.

[4]Rogers' Innovation Adoption Curve identifies five groups involved in the diffusion of an innovation: innovators, early adopters, **early majority**, late majority and laggards. As part of the 'early majority,' UM embraces the safe and ethical use of GenAI at a time when 'early adopters' at the university have already experimented with the technology and are keen to develop it further. UM does not wish to lag behind the societal progress in this technological field, but to integrate the use of GenAI so as to remain an innovative and modern institution where research and education are carried out in a manner that is useful to society, now and in the future.

[5]GenAI (LLM) is indeed a disruptive technology, where early adopters among our staff and students have, for example, already purchased a license themselves before the use of GenAI has become commonplace.

[6]Building an Ethical, Empowered, and value-driven Academic Digital Horizon: UM's 2030 Digitalisation Vision

[7]https://eur-lex.europa.eu/legal-content/NL/TXT/?uri=CELEX:32024R1689&qid=1722438237423

[8]KNAW, NWO, VH, NFU, TO2 and VSNU, 'Netherlands Code of Conduct for Research Integrity': www.maastrichtuniversity.nl/file/netherlandscodeofconductforresearchintegrity2018ukpdf

[9]Maastricht University, 'Protecting personal data': www.maastrichtuniversity.nl/protecting-personal-data

[10]Maastricht University, 'Codes of conduct and regulations': www.maastrichtuniversity.nl/about-um/organisation/codes-conduct-regulations

[11]Maastricht University, 'Research Data Management Code of Conduct': https://library.maastrichtuniversity.nl/research/rdm/rdm-policies/research-data-management-code-of-conduct/

[12] Examples of citing ChatGPT: APA style ChatGPT citing: https://apastyle.apa.org/blog/how-to-cite-chatgpt; MLA style ChatGPT citing: https://style.mla.org/citing-generative-ai/; Chicago style ChatGPT citing: https://www.chicagomanualofstyle.org/qanda/data/faq/topics/Documentation/faq0422.html

[13] https://eur-lex.europa.eu/legal-content/NL/TXT/?uri=CELEX:32024R1689&qid=1722438237423

[14] https://wetten.overheid.nl/BWBR0005682/2024-07-01

[15] https://wetten.overheid.nl/
BWBR0040940/2021-07-01

[16] https://wetten.overheid.nl/
BWBR0001886/2022-10-01

[17] https://www.nwo.nl/nederlandse-
gedragscode-wetenschappelijke-integriteit

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