AI guideline for BSc and MSc theses

(AI translated version, in case of divergence of interpretation, the Hungarian version shall prevail)

1. Introduction

Artificial Intelligence (AI) is evolving rapidly, with its capabilities continuously improving and new tools emerging daily. Below, we outline the current (as of May 2025) conditions for the use of generative AI in BSc and MSc theses at the Faculty of Civil Engineering, Budapest University of Technology and Economics (BME). Please note that these guidelines for AI use may change as the field continues to develop.

The Faculty of Civil Engineering supports both students and lecturers in the use of generative Artificial Intelligence (AI). We encourage all members of the Faculty to make the most of the capabilities of generative AI to enhance learning and teaching, within the bounds of ethical use. This document provides guidance on the ethical application of AI.

2. Risks and responsibility

While acknowledging all the benefits of the technology, users must also consider the following risks:

- **Hallucination**: The model's responses may appear convincing even when they are factually incorrect. Therefore, verifying the truthfulness of the responses is always necessary.
- **Bias**: The model's answers are based on the data it was trained on. If the training data was unbalanced or incomplete in any way, the system's responses will reflect those shortcomings.

Currently, no generative AI model assumes responsibility for the accuracy of its outputs, and typically, citing the model's responses as factual sources is explicitly prohibited. **It is the user's responsibility to verify the model's responses, and the user is fully accountable for their accuracy.** In the case of a BSc or MSc diploma project, the user is the author of the work (i.e., the student). Model responses must never serve as a basis for reference (e.g., in case of a student complaint).

3. Use of AI for BSc and MSc Theses

3.1. Ethical use without citation

AI tools may be used ethically—without the need for citation—for the acquisition and expansion of professional knowledge, summarizing specific topics or subject areas, and filling knowledge gaps. The user (student) is responsible for verifying the accuracy of any AI-generated content.

Productivity-enhancing AI applications that do not require explicit prompting—such as tools that suggest short (or occasionally longer) continuations of sentences already started by the user—are also considered ethical. These models derive their input automatically from previously written

parts of the document and can be considered a form of predictive text input. The accuracy and correctness of the generated content remain the responsibility of the author (student).

Transforming or improving user-generated content using generative AI tools is also acceptable. This includes spell checking, paraphrasing, summarizing, or even generating full paragraphs—provided that all professional content and factual information is supplied by the user (student) and included in the prompt.

Any use of AI in which all professional content originates from the user, and AI tools are used solely for formatting or presentation purposes, is considered ethical. For example, if the entire technical content is included in the prompt as a list, the AI's task is simply to convert it into continuous prose.

3.2. Ethical use with citation

In all cases where the user (student) incorporates AI-generated content that requires their professional competence to assess, the use of AI must be explicitly acknowledged. Examples of such cases are provided in the next section of this document.

3.3. Unethical use

Using AI-generated content without citation or acknowledgment is considered unethical if the content requires the user's (student's) professional competence to assess, or if it includes new information that was not part of the prompt.

4. Typical use cases

4.1. Literature Review

Generative AI can be useful for literature reviews; however, interpreting its responses requires caution. The output may be limited to the data the model was trained on (bias), or certain tools may provide incorrect references (hallucination). All results must be verified and the original sources identified.

If a student writes their own text based on an AI-assisted literature review (with proper verification), no citation of the AI is needed in the text.

If the student uses the AI to write the text based on the literature review (even after proper verification), the use of AI must be cited, and the student is responsible for the content generated.

4.2. Generation of new ideas and proposed solutions

Generative AI models can be used for inspiration, idea generation, and collecting proposed solutions. It is always necessary to verify whether the generated idea is original or derived from existing work, which must then be cited appropriately. The AI output may not be up-to-date, as new, relevant content may have been published since the model's training. Citation of AI in the text is not required, but citation of others' work is mandatory, and the user is responsible for the accuracy of the ideas or solutions.

4.3. Outline creation (text structure, bullet points)

A common use of generative AI tools is in developing the structure of documents or presentations—identifying main ideas and outline points. Users should evaluate which elements

are relevant to the task and are not required to follow the AI output strictly. No citation is required for AI use in this context.

4.4. Generating text blocks

The general principles apply here, as detailed above: if the output contains new information beyond what was included in the prompt, it must be cited. Otherwise, no citation is necessary.

4.5. Image generation for illustrative purposes

All AI-generated images must be clearly labeled as such, including the name of the tool used. If the generation is based on an existing photo, recording, or artwork, that original source must also be cited.

4.6. Data visualization and chart generation

Charts generated using generative AI must be cited accordingly.

4.7. Model creation

Generative AI can assist in creating models for analyzing civil engineering problems (e.g., finite element models).

If AI is used to learn how to use the FEM software (e.g., by searching for tutorials or model creation guides), no citation is necessary.

If the model—or the code necessary for model creation—is generated partially or entirely by the AI, this must be clearly indicated in the thesis. The user must always verify the model's proper functioning.

4.8. Code generation

When full source code or algorithms are generated using explicit prompt-based systems, the code must be clearly marked and cited as AI-generated content.

Code prediction systems that do not require explicit prompting and serve as programming assistants may be used freely without citation or labeling.

4.9. Presentation creation

When using AI to generate presentations, the same rules apply as for text, images, and visualizations. The user is responsible for verifying the accuracy of the content.

5. Submission of BSc and MSc theses

For BSc and MSc theses, it is the supervisor's (or advisor) responsibility to verify the originality of the submitted work. This includes checking: 1) the student's independent contribution, and 2) the extent of AI use.

The supervisor/advisor must judge whether the submitted work contains a sufficient amount of clearly attributable student contribution to warrant the awarding of the degree. While no strict guideline can be defined for this, it can usually be assessed through regular consultations during the semester.

If the supervisor or advisor believes that the use of generative AI is excessive or impacts essential parts of the thesis topic, the work may not be accepted. In case of disputes, the Faculty's Student Disciplinary Committee (Kari Hallgatói Fegyelmi Testület) must be consulted.

If the student is unsure whether a specific use of generative AI is permissible, they must consult their supervisor or advisor in all cases.

Reviewers are not required to evaluate the extent of AI use during the assessment of the thesis.

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