Basic Policy on the Use of Generative AI at the University of Tsukuba

The purpose of University of Tsukuba is to develop human resources equipped with creative intellect and a rich sense of humanity and contribute to the advancement of science and culture, while constantly responding to the changes in modern society.

The university also recognizes the importance of maintaining the confidentiality of data in research, ensuring the accuracy and originality of academic papers, and promoting free and fair research.

Generative AI is expected to produce significant academic and industrial achievements. The university's basic policy is to actively utilize new technologies to help them to take root in society.

All faculty, employees, and students involved in the fundamental activities of the university are to respect and utilize originality and novelty,the most important characteristics of education and research.

However, users should be aware of their responsibilities and handle the data with care. They must recognize that there are currently problems such as the inability to verify the authenticity and correctness of information, disputes over copyright infringement and problems related to the protection of academic originality; concerns about the leakage of personal and other confidential information; and the risk that the data may be used for speech and thought control by arbitrary selection of data, etc.

Specifically, please pay attention to the following.

- Prompts for Generative AI

Do not include in generative AI prompts confidential information obtained in the course of your work or nonpublic information such as research plans, research results, etc.

- Clarification of Original Sources

When using text, images, etc. generated by AI sources in articles, books, educational materials, or learning achievements prepared by faculty, employees, and students of the University of Tsukuba, the use shall be limited to cases where the original sources can be properly clarified and in a proportion that does not raise concerns about the originality of the text as a whole.

In addition, information that cannot be verified as not being false or free of copyright or other issues must not be used.

- Points to Note on Information Bias, etc.

Always confirm and refer to primary sources and handle with due care, recognizing that information obtained from generative AI may contain false information with a specific intention or be biased.

- Use of Software Equipped with Generative AI

In the future, as software equipped with generative AI, such as Microsoft Office, becomes more prevalent, generative AI may be functioning in the background when you are working without being aware that you are using it. Recognize this and pay due care to the environment settings of the software in question.

- Understanding the Latest Trends

The technological development of generative AI is constantly evolving, and the benefits and associated risks are also always changing.

Keep abreast of the latest developments in the discussion over generative AI and precautions for its use and respond appropriately.

These specific points to note reflect the situation as of May 2023. They will be updated and published again should any changes be required in the future.

Guidelines for the Utilization of Generative AI in Education 2024

(For Students)

October 22, 2024

Mitsuyasu Kato

Vice President and Executive Director for Education

1. Introduction

The recent rapid advancements in Generative Artificial Intelligence (Generative AI) have had a profound impact on us all, influencing not only our daily lives but also the landscape of education and research within universities. The University of Tsukuba, which was founded as a new concept university, is expected to be open to this transformative change within the academic world, adopting an open stance and approaching it with a creative and open-mindedness attitude to shape a sustainable future society. In this context, on May 11, 2023, we published the "Basic Policy on the Use of Generative AI at the University of Tsukuba" and have continued to explore this issue further. In line with our mission to cultivate talent through advanced academic pursuits, we now take the following our approach to pre-emptively engage with Generative AI as follows:

1) Utilization Based on an Understanding of Fundamental Principles
Generative AI is not a magical black box; it operates based on mathematical principles. Its possibilities, limitations, and ways to utilize it must be considered not superficially but from a foundation rooted in these principles. At the University of Tsukuba, the utilization of Generative AI, whether in education or research, is based on this foundational understanding.

2) Ethical Use for Human-Centered Empowerment
The ethical use or misuse of Generative AI depends on the ethical standards and literacy of those who engage with it. Moreover, as AI becomes further integrated into education and research, human beings will increasingly need to reflect on their role as autonomous thinkers. To ensure that AI is neither used in ways that harm humans nor fosters excessive dependency, the University of Tsukuba aims to promote the appropriate utilization of Generative AI to enhance human potential. This approach places humans, with their intrinsic dignity, at the center, enabling individualized support and optimization.

3) Endless Pursuit of Excellence Across Diverse Fields
At the University of Tsukuba, which covers a wide variety of academic disciplines compared to other universities, the utilization of AI extends broadly, covering areas such as physical activities and artistic creation. To make this multifaceted utilization meaningful for individuals and society, there is an ever-greater need for critical thinking, collaborative dialogue, empathy, and creativity. Based on education that cultivates these qualities, the University of Tsukuba will fulfill our mission by further promoting the search for truth and contributing to human society through the use of AI.

2. Basics of Generative AI

1) Principles and Precautions of Generative AI

Generative AI is a technology that uses processing systems (models) trained on vast amounts of data to generate text, images, audio, and video. Among the widely used Generative AI services are those that, when given prompts, respond in natural language. Notable examples include OpenAI's ChatGPT, Microsoft's Copilot, and Google's Gemini. At the core of such Generative AI lies a Large Language Model (LLM), which processes input by breaking it down into small units (tokens) and predicting subsequent words based on likely connections. Additionally, Generative AI generally learns from the data input by users as it is used.

This system is highly versatile and produces outputs of quality sufficient for academic work and various tasks, generating text resembling human conversation. However, any biases or inaccuracies in the original data used for training can influence the outputs produced. Thus, caution is required to avoid unintended issues such as the following:

1. Bias in information: The original training data may contain biases related to gender, race, nationality, religion, or ideology, which may result in biased output.
2. Credibility of information: If the training data includes non-factual, uncertain, or outdated information, the responses generated may also lack credibility. Generative AI does not possess factual knowledge; it is a system that operates by predicting likely word sequences, meaning that while responses may appear coherent, they could be factually incorrect.
3. Misuse of information: If training data includes copyrighted or intellectual property information, the output generated may inadvertently infringe on the rights of others.
4. Data leakage: When personal or confidential information is included in prompts, it may be incorporated into training data, leading to potential data leaks if that information is subsequently generated for other users.

2) Recommended Measures

Although various measures have been implemented by service providers, they are not yet fully comprehensive. Therefore, users are encouraged to take the following precautions:
1. Do not accept Generative AI output uncritically; always check for potential biases. Cultivate ethics and knowledge that enable you to recognize these biases.
2. Verify whether the AI's output is factual and current, not merely accurate as of the training period. Use services with fact-checking functions, and formulate prompts carefully to avoid extracting uncertain information.
3. If you suspect the AI's output may infringe copyright, do not use it. Additionally, remember that unless legally justified, the AI's output is not the user's intellectual property.
4. Follow security policies prohibiting the inclusion of personal or confidential information in prompts, and apply access controls to prevent inadvertent inclusion of such data. If using sensitive information, ensure to opt out of contributing this data to training sets or secure agreements that protect against its inclusion.

3) Use of Generative AI in Educational Settings

Each educational organization or instructor should establish policies for using Generative AI in the classroom, considering educational effects and risk management. Faculty members and students should base their decisions to use Generative AI on these policies, ensuring it is utilized appropriately as a tool when permitted.

3. Student Life and Generative AI

1) Preparing for Student Life in the Era of Generative AI

Generative AI is expected to significantly impact not only academic pursuits at the university but also various aspects of student life in the future. In addition to assisting with writing tasks, it may be helpful for scheduling, providing recipe suggestions, or even acting as a conversational partner. However, humans are irreplaceable beings with individual personalities, thoughts, emotions, and a physical presence. We must engage with others meaningfully, explore our inner worlds, share joys, face challenges, and cultivate our humanity. As we move toward a future where AI and humans coexist, the multifaceted strengths of humanity will be increasingly challenged. Our university life is a valuable time for nurturing these abilities—cherish each day to enhance yourself.

2) Ethical Use and Utilization of Generative AI in Student Life

The ethical use and utilization of Generative AI will become an increasingly significant consideration. To enrich and advance humans and society, it is essential not to overly rely on AI or accept its outputs unquestioningly. Beyond specialized knowledge and skills, liberal arts and literacy with breadth and depth, and a spirit of altruism aimed at coexistence and mutual prosperity are essential. These qualities should be cultivated not only within the classroom but also in daily student life.

3) Guidelines for Using Generative AI in Student Life

When using Generative AI in student life, please keep the following points in mind:

1. Proactive use: Over-relying on Generative AI for convenience and becoming a person who does not think or decide independently is counterproductive. Utilize Generative AI with proactive intentions.
2. Protection of personal information: Avoid inputting personal or private information about yourself or others into Generative AI. Such information, if inadvertently accessed by others, may be disseminated without control and may not be deletable.
3. Careful evaluation of generated information: The nature of Generative AI means that its output may contain inaccuracies or inappropriate content. Be diligent in reviewing responses and avoid making hasty judgments.
4. Avoid harming others: Even in personal settings, using Generative AI to infringe on others' rights or cause harm is unacceptable. Cultivate a commitment to the ethical use of Generative AI rather than its misuse.
5. Enhance literacy: Misinformation and fake media content generated by malicious AI use are on the rise. To avoid inadvertently contributing to the spread of falsehoods or becoming involved in criminal activities, enhance your literacy for evaluating information responsibly.

4. Use of Generative AI in Classes

The basic policy of the University of Tsukuba is to actively utilize Generative AI. Generative AI offers a wide range of potential applications, such as brainstorming through discussions and learning about its nature and limitations by crafting creative prompts. Students are encouraged to explore the possibilities of using Generative AI in their learning while being mindful of the challenges it presents, as well as the long-term effects, practical knowledge, and points to remember.

To maximize the learning outcomes, Generative AI should be utilized appropriately and considered one of the tools/options that aligns with the achievement of course objectives stated in the syllabus.

1) Effects and Impacts on Learning

Generative AI can be utilized as an effective tool to support student learning. However, over-reliance on its convenience could diminish the quality of learning. Therefore, caution must be exercised while utilizing Generative AI.

The decision to use Generative AI should be based on the achievement of course objectives. In any case, the "process of obtaining solutions, not just the results," is important in university-level learning. This is achieved through proactive attitude of the student toward learning. When using Generative AI, it is necessary to clarify its purpose and utilize it appropriately. Particular attention should be paid to the following points:

1. Risk of leaking personal and confidential information
2. Risk of copyright infringement
3. Possibility of biased or inaccurate outputs, including harmful or offensive content (hallucinations)
4. Discrimination and ethical concerns (prejudice and biases regarding gender, race, and religion)

2) Syllabus Descriptions

Please confirm the "Other (Behavioral expectations and points to note for students during coursework)" section of the syllabus for the course policy on the utilization of Generative AI. If you use Generative AI despite the fact that it is discouraged or prohibited, then you might miss the opportunity to acquire the knowledge and skills that you can acquire by thinking for yourself or by being creative. Please note that the courses are structured to correspond to each standard registration year. Even if you manage to earn credits by using Generative AI in courses where its use is prohibited or discouraged, you may not achieve the intended knowledge and skills. Additionally, when Generative AI use is allowed, it is essential to carefully verify the authenticity and appropriateness of the AI-generated output.

3) Use in Assignments and Examinations

The content and format of the assignments and examinations are designed to align with course objectives. Please follow the faculty member's instructions on the use of Generative AI. When using Generative AI, it is essential to examine its credibility and confirm the primary information, as with traditional Internet searches, including the risks mentioned above. Specifically, it is important to consider the following points.

1. When using Generative AI in report assignments, it is important to distinguish between your own ideas and those generated by Generative AI. This allows faculty members to appropriately evaluate you own unique contribution.
2. Over-reliance on Generative AI can lead to a shallow understanding of the subject matter, negatively impacting the quality of your learning. It is essential to use Generative AI as a supplementary tool when focusing on your own ideas and analyses.
3. To deepen your learning, it is crucial to understand and utilize the theory and rationale behind content generated by Generative AI rather than simply accepting it. Furthermore, it is essential to consider the learning content based on the information provided by Generative AI. Finally, Generative AI is a powerful tool; however, its application requires personal responsibility and ethical considerations.

5. Guidance for Academic Writing and Research

Generative AI can be a highly effective tool to support academic writing and research; however, its use requires academic integrity and a strong ethical awareness. By viewing academic writing and research as a learning process and utilizing AI appropriately, we can achieve deeper learning and enhance their academic and research skills.

1) Fundamental Principles
When using Generative AI in academic writing or research, it is important to adhere to several fundamental principles. Utilize Generative AI as a supplementary tool to enhance knowledge acquisition and analytical skills. Avoid over-reliance on AI, prioritize independent thinking, and focus on conducting your own experiments or investigations. For example, if you use AI to gather literature, ensure that you independently conduct a literature review based on that material. When incorporating information obtained through AI, it is essential to indicate its use and cite sources appropriately. Treat AI-generated information as secondary sources, and reconstruct AI suggestions in your own words to create original insights for your writing.

2) Effective Use
AI can assist in setting research directions or finding relevant literature; however, it is essential to verify the reliability of information yourself. For example, when using AI to gather literature, go beyond simply collecting papers related to your topic—engage in thorough, independent reading of those papers. AI can also help with grammar and style checks, but you must review and adjust the final expressions as needed. Avoid any form of academic misconduct, such as copying others' research or text without permission, even if aided by AI. Respect copyright and ethics, and use AI appropriately.

3) Points of Caution and Risks
AI-generated information is not always accurate, so confirm the facts thoroughly. In particular, for academic content, it is essential to verify AI-generated information against reliable academic sources rather than accepting it at face value. For example, if using statistical data provided by AI, check the original data and assess its methodology and reliability. Also, be cautious with privacy and data security, especially when handling research data or personal information. Over-reliance

on AI can hinder the development of critical thinking and learning abilities, so understand AI's limitations and use it judiciously.

6. Appendix

These guidelines are based on the conditions as of October 22, 2024. It will be reviewed regularly to incorporate the latest information and appropriate measures, so please check for updates periodically.

This document is a translation of the original Japanese version. In case of any discrepancies or ambiguities, the Japanese version shall prevail as the official document.